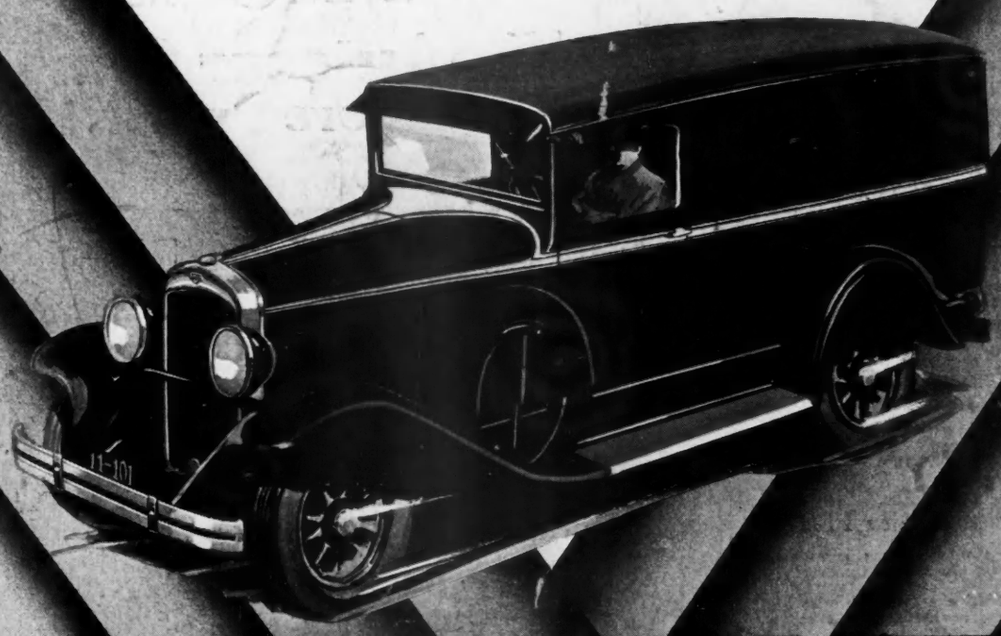
tation
brary

COMMERCIAL CAR JOURNAL
and OPERATION & MAINTENANCE

JUNE 1929

JUN 15 192

YOU cannot afford to purchase delivery equipment until you have inspected the new Dodge ½-Ton Merchants Express. ¶ Power in abundance — speed and acceleration —low operating cost—good looks— at a new low chassis price of $545 at factory or complete with unusually large panel body for $795 at factory. See it! Drive it!

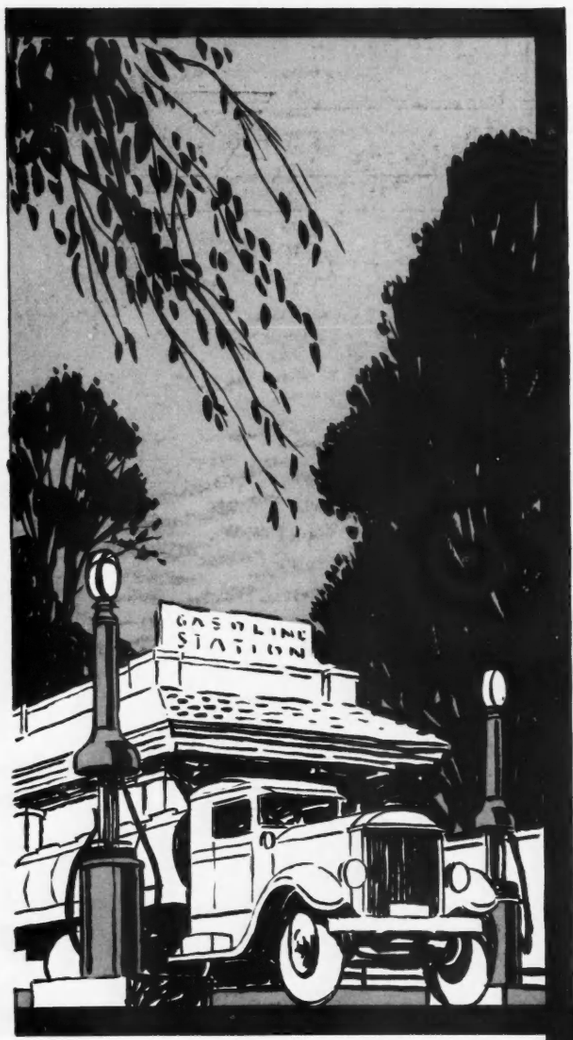


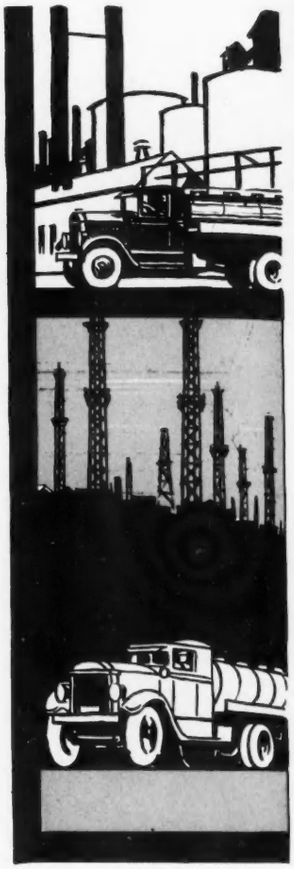
DODGE BROTHERS TRUCKS

BUSES AND MOTOR COACHES

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

OIL



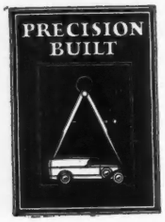


In the oil industry, 178 concerns own and operate 638 Autocar Trucks! Among these 178 Autocar owners you find such concerns as The American Oil Co., Cities Service Oil Co., Crew-Levick Co., The Standard Oil Co., The Sun Oil Co., The Texas Oil Co., and The Tidewater Oil Co. All careful, discriminating buyers of Equipment!

There is an Autocar Model for every trucking job in the country, and there are 51 Autocar Factory Branches that work with Autocar Dealers—guaranteeing rapid deliveries and eliminating the necessity of large expensive stocks of trucks and parts on the dealer's floor. You are sure to be interested in the Autocar Dealer Plan! Write for it and let us show you just what we have to offer.

AUTOCAR TRUCKS

The Autocar Company
Ardmore Pa. Est. 1897



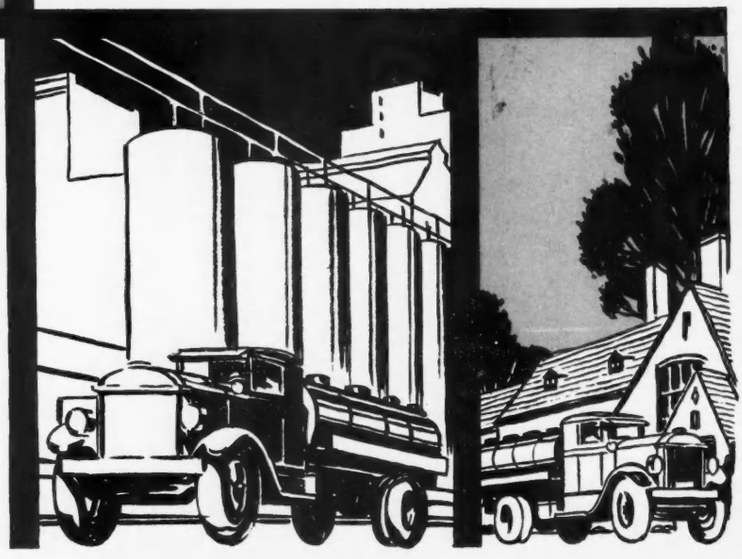
Autocar Dealer Plan

A floor plan that assures *an exceptionally* small investment and a rapid turnover!

Factory co-operation and definite sales helps that *assure* the profitable conduct of your business *from the start.*

A national and local advertising campaign.

A complete line of trucks that is unsurpassed in quality and performance!



COMMERCIAL CAR JOURNAL
and OPERATION & MAINTENANCE

Entered as second-class matter at the Post Office at Philadelphia, Pa., under the act of March 3, 1879.

Vol. XXXVII Philadelphia, June, 1929 No. 4

EDITORIAL DEPARTMENT

NORMAN G. SHIDLE, Directing Editor
GEORGE T. HOOK, Editor

MARTIN J. KOITZSCH, Managing Editor
JAMES W. COTTRELL, Technical Editor
LEWIS C. DIBBLE, Detroit News
ATHEL F. DENHAM, Field Editor
A. B. CROFOOT, New York News
GEOFFREY GRIER, Art Editor
M. W. BAKER, Chicago News

TABLE OF CONTENTS

LEADING ARTICLES

Title Page Illustration 13
Airports a New Truck Market 14
Can Front-Wheel Drive Air Trucks? 18
Football Signals for Job Orders 20
Transportation Counselor 22
Open Ice Bodies Reduce Weight 24
Getting Actual Trailer Costs 26
Truck-Terminal Freight Tariffs 30
Reo Changes Alter Service Procedure 40
Lower Chassis Frame Solves Loading Problem 48

TRUCK AND PART DESCRIPTIONS

Overland Whippets Make Truck Debut 34
Republic Has New Line of 5 Models 38
4-Wheel Drive Unit for Ford Trucks 42
Indiana Road Builder Has 5 Speeds 43
Convertible Truck Wheel 44
Selden 39C is 2½-Tonner 44
Day-Elder Revises Entire Line 45
York Hoover Bodies for Ford Chassis 46
Galion Power Hoist Dump Body 49

DEPARTMENTS

New Truck Sales by Makes and States 28
Flat Rate Price List 32
Service Hints From Shop and Factory 33
After Hours 36
Accessories and Equipment 50
News 52
Commercial Car Specifications 65
Advertisers' Index 168

Published Monthly by

CHILTON CLASS JOURNAL COMPANY

Chestnut and 56th Streets, Philadelphia, U. S. A.

C. A. MUSSELMAN, President and General Manager
J. S. HILDRETH, Vice-Pres. and Director of Sales
W. I. RALPH, Vice-Pres.
G. C. BUZBY, Vice-Pres.
A. H. VAUX, Secretary and Treasurer
JOHN A. CLEMENTS, Assistant Treasurer
A. W. BROWNELL, Business Manager Commercial Car Journal and Operation & Maintenance
GEORGE D. ROBERTS, Advertising Manager

Telephone.....Sherwood 1424 Philadelphia

OFFICES

New York—239 W. 39th St., Phone Pennsylvania 0080
Chicago—5 S. Wabash Ave., Phone Central 7045
Detroit—710 Stephenson Bldg., Phone Northway 2090
Cleveland—1140 Guardian Bldg., Phone Main 6860
Los Angeles—433 Petroleum Securities Bldg., Phone Westmore 9084

Owned by United Publishers Corporation, 239 West 39th Street, New York; ANDREW C. PEARSON, Chairman, Board of Directors; FRITZ J. FRANK, President; C. A. MUSSELMAN, Vice-President; F. C. STEVENS, Treasurer.

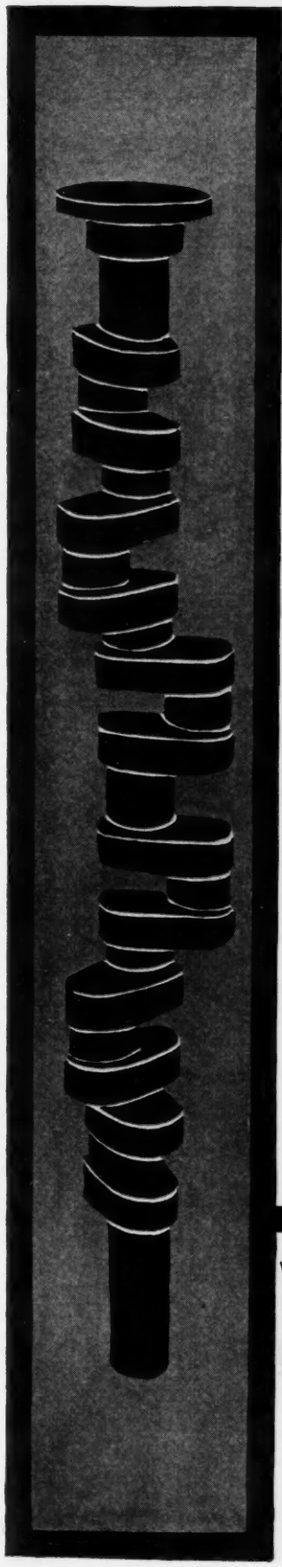
SUBSCRIPTION RATES: United States, Mexico, United States Possessions, Canada and all countries in the Postal Union—$2.00 per year. Foreign—$4.00 per year. Single copies 40 cents.

Make Checks, Money Orders, etc., payable to Chilton Class Journal Company

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

WYMAN GORDON

CRANK-SHAFTS



IN WELL KNOWN MOTORS SINCE THE BEGINNING OF THE INDUSTRY

WYMAN GORDON

THE CRANKSHAFT MAKERS

WORCESTER, MASS.
HARVEY, ILL.

PICKWICK ENDS HUNT FOR BEST SPARK PLUG

A bus of the Pickwick Stages System stops long enough to be photographed amid the luxuriant beauty of a forest in the far west. The Pickwick Stages System, operating hundreds of busses from coast to coast, finds the Robert Bosch Pyro-Action Spark Plug the only type of plug that meets their requirements.

BUSSES in level country. Busses on hills. Busses in frigid zones. Busses in warm climates. Light busses, heavy busses, night busses, day busses .... with such extremes of service conditions to contend with, the Pickwick Stages System operates a fleet of hundreds of busses from coast to coast.

No wonder Pickwick was concerned about spark plugs. For they had to find the one make of plugs that would give maximum efficiency for thousands upon thousands of bus miles no matter what the conditions of service. They wanted reasonable certainty that no bus on the road would lose time due to spark plug troubles. They wanted reasonable economy .... the lowest plug cost-per-mile consistent with efficiency. Well Pickwick tried them all .... one after another. Now their hunt is over. Under date of March 11, 1929 they write:

"We are now using Robert Bosch Spark Plugs nearly exclusively. We find the Robert Bosch Pyro-Action Spark Plug to be far superior to any other plug we have ever used. In our new Pickwick engine built entirely in Pickwick shops and designed by Mr. George Goodie, a Pickwick engineer, we use the Robert Bosch Pyro-Action Spark Plug type Z40/S4. In our Pierce Arrow engine we use the type Z80/1 and the type ZD13 miniature plugs."

Notice how Robert Bosch furnished Pickwick with the correct type of plug for every type of engine and condition of service. *In the final analysis this is the answer to the spark plug problems of any bus operator.* Your Robert Bosch service station will help you select the correct plug for your own operating conditions and engine requirements. Or write us direct for folder and full information.

Only Robert Bosch Pyro-Action Spark Plugs are Original-Bosch Plugs. For your protection look for full name and this trademark. . . . . . .

ROBERT BOSCH MAGNETO CO., Inc.
3603 F Queens Blvd., Long Island City, N. Y.

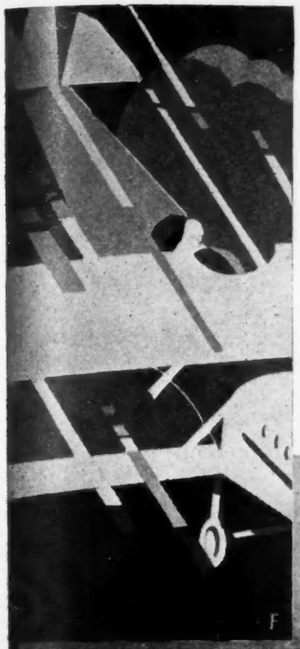
5 New Benefits

Have you ever compared a Robert Bosch Pyro-Action Plug with any other? To do so, is to recognize the superiority of the Robert Bosch Plug in design, materials and workmanship. It is this superiority which makes it possible at last for you to select the type of plug *suited to the particular heat characteristics of your engine and the service conditions under which your bus operates.* And like the Pickwick Stages System whose experience is related above, you too will find that five important benefits result:

1. **A full strength spark**
2. **Prevention of fouling**
3. **Protection against burned off electrodes**
4. **Prevention of pre-ignition**
5. **Lower spark plug cost-per-mile**

Pyro-Action Spark Plugs

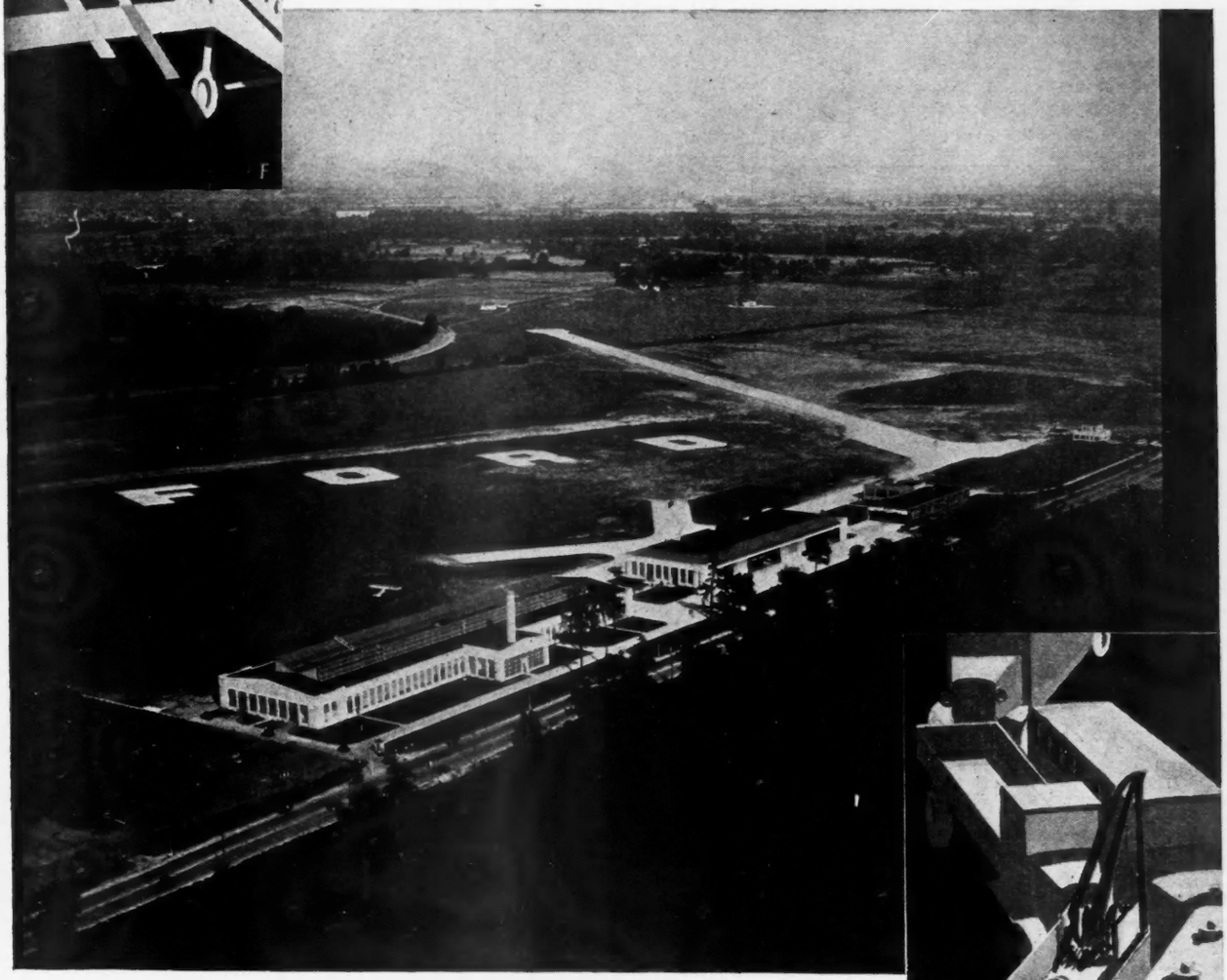
The Original Bosch
ROBERT BOSCH PRODUCTS

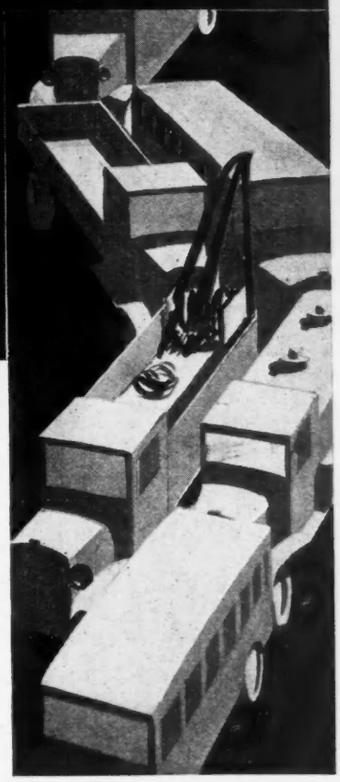


COMMERCIAL CAR JOURNAL
and OPERATION & MAINTENANCE

VOL. XXXVII NUMBER 4

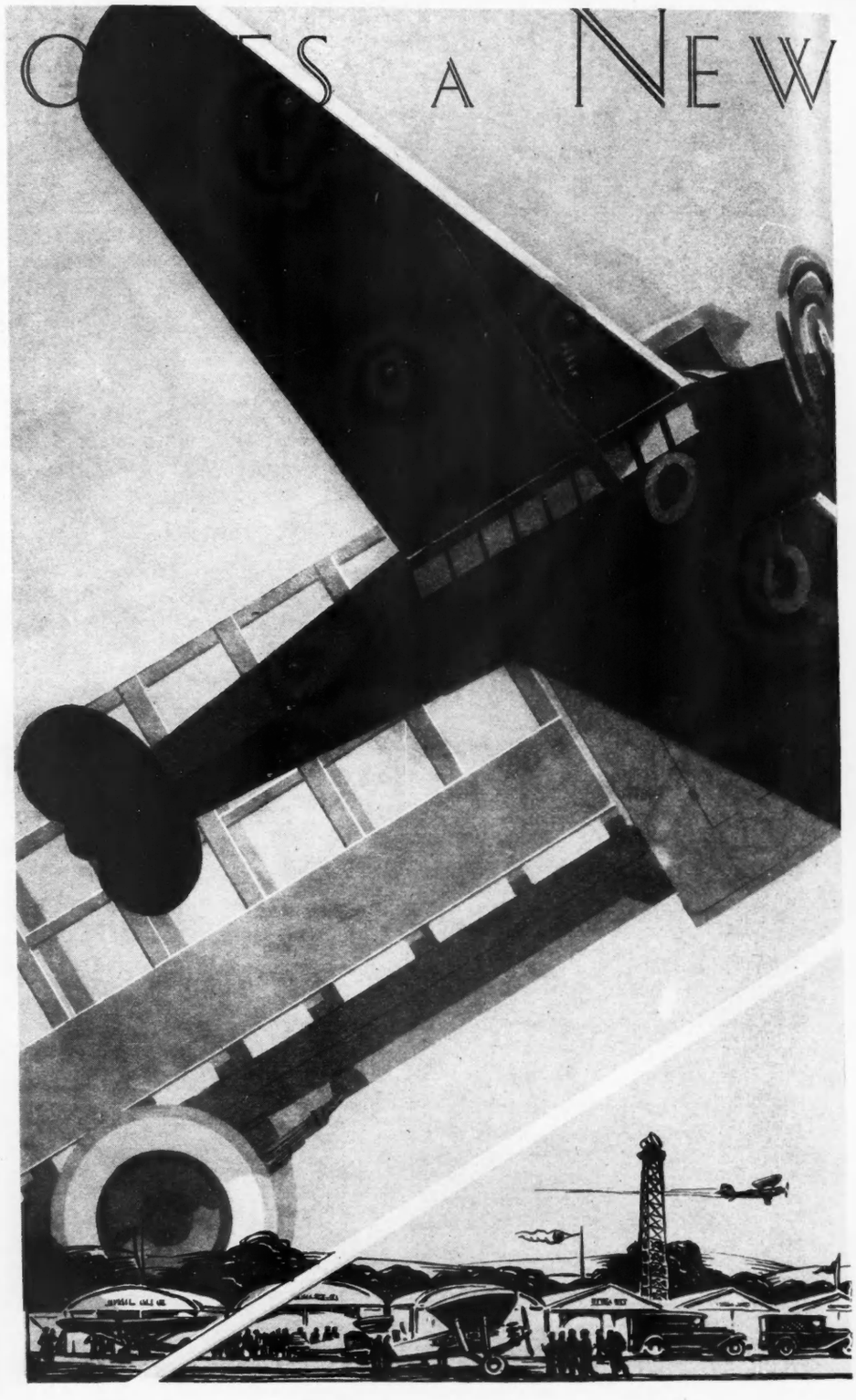
PHILADELPHIA, JUNE, 1929





AVIATION, making a striking advance in the past year, has awakened an interest in airport construction in practically every municipality in our country. Today there are almost twice as many municipal and commercial airports as a year ago and proposed construction will double the present number. Existing airports, such as the Ford Airport at Dearborn, Mich., shown in the illustration, are being improved to keep pace with demands of air transportation. The airport of the near future will be larger and better equipped than any now in use and will be a community in itself, according to aviation experts. Trucks are saving time and money at airports, as in other vocations, and there is opportunity to further develop this new market for motor truck transportation. How trucks are being used at airports and the future potentialities of this market are explained in an article on the following pages, based upon an investigation conducted by COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE.

AIRPORTS A NEW



MOTOR truck dealers, manufacturers and operators are always on the alert for any sign indicating new uses for trucks.

While much is being said and written about the amazing development in aviation in the United States, little has been mentioned about the part which motor trucks are playing in this drama. To find out what use is being made of motor trucks at airports and the potentialities of this market in the future, COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE conducted an investigation during which visits were made to airports in Newark, N. J.; Washington, D. C.; Dayton, Columbus Akron, Cleveland, Detroit, Dearborn and Chicago. Information was furnished also by such general sources as Aeronautics Branch, Department of Commerce; Aeronautical Chamber of Commerce of America, Inc., and U. S. Air Corps. In addition, operators of contract air mail lines, passenger, transport services, oil companies and airplane and truck manufacturers were interviewed.

The purpose of this survey was to give dealers and factories the sort of information they need in approaching a new market. In the course of the investigation a study was made of the various type of trucks suitable for airports, the uses to which they may be put, who does the buying, the size of this market at the present time and the extent to which it will grow within the next few years.

Results of the investigation indicate unmistakedly that aviation is making good use of trucks, needs many more trucks this year and holds more promising possibilities for future business. Trucks are performing a variety of services at airports which is surprising to those who have not thought much about the subject. In this service trucks are most useful. For a majority of the jobs standard commercial chassis are well adapted. Special equipment is needed for other work, such as that of fueling planes. Two jobs require spe-

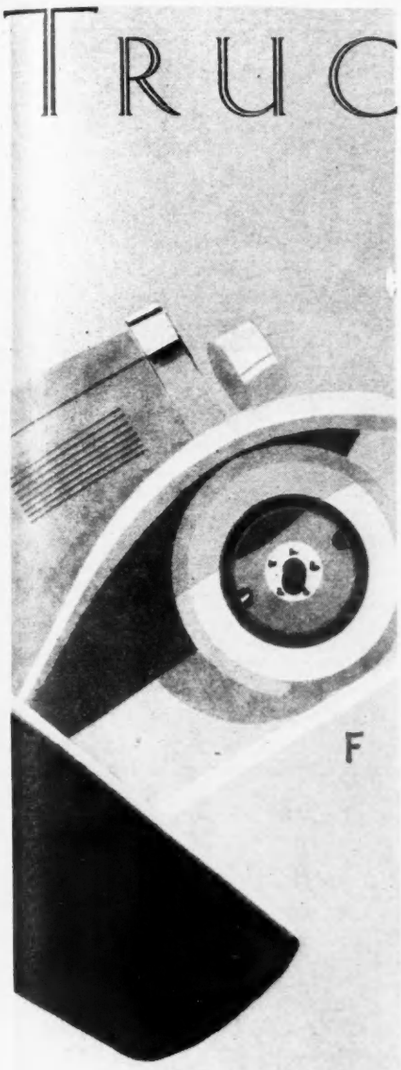
Airport Development

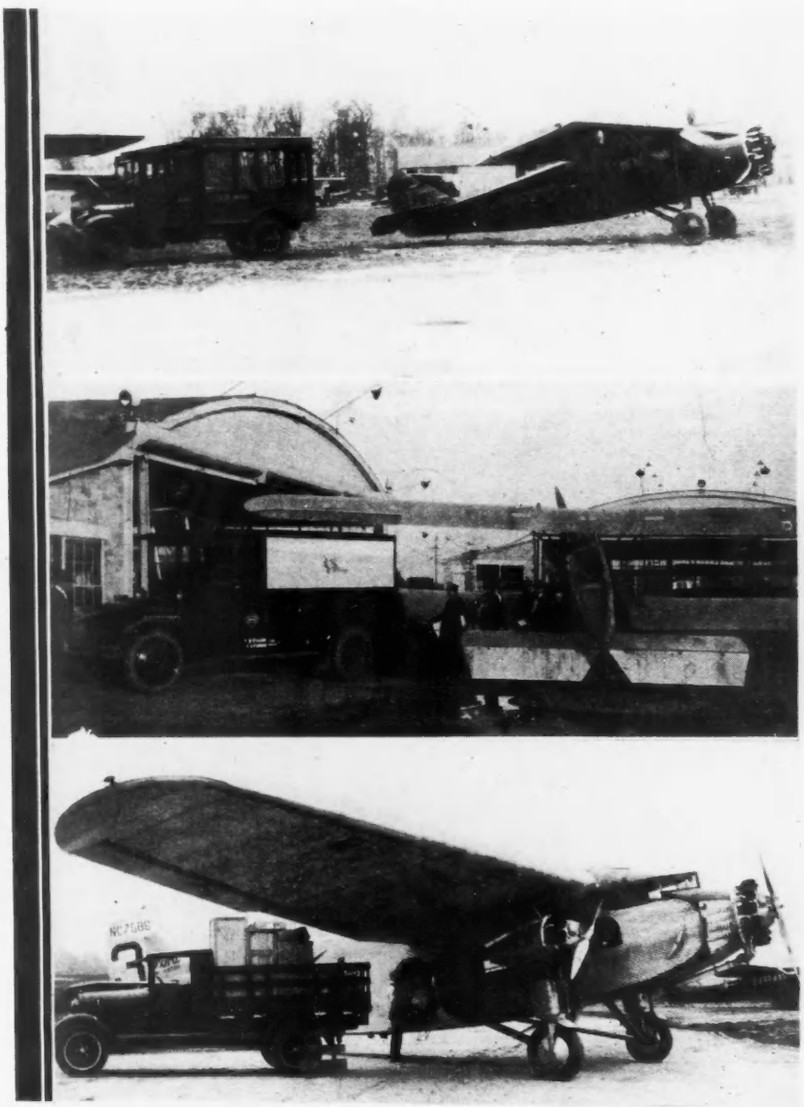
	Jan. 1 1928	Mar. 1 1929
Municipal airports	240	449
Commercial airports	263	417
Department of Commerce Intermediate Airports	154	311
Army airports	62	64
Naval air stations, including Marine and Coast Guard	17	17
Marked Auxiliary Fields	422	921
Total	1056	1598
Proposed airports	422	921

TRUCK MARKET

Remarkable Growth in Air Traffic Gives Truck Industry Opportunity to Aid Aviation Because Motor Trucks Provide Many Services Which Are Required at Rated Airports

By James W. Cottrell



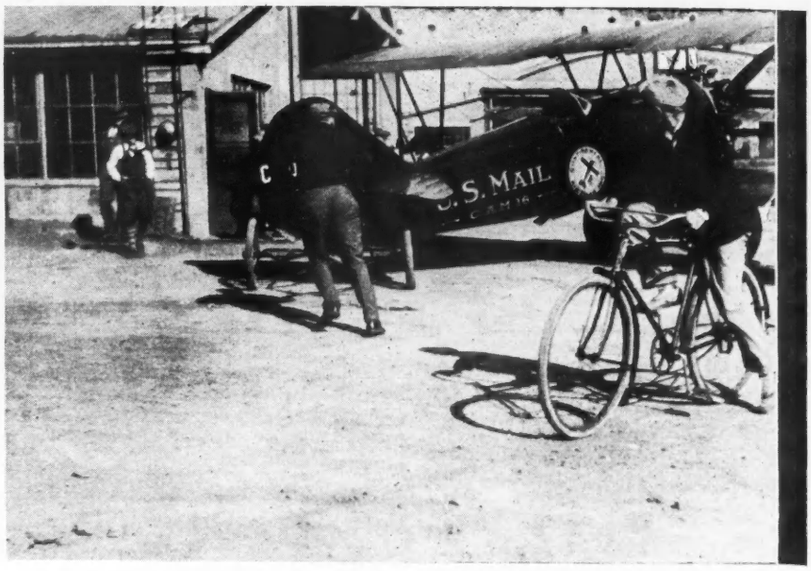


Air mail letters take from two to six rides in motor trucks. This Post Office truck at top has just delivered mail to a Detroit-Chicago plane. Air express is carried to and from planes by trucks. View shows a Railway Express Agency, Inc., truck loading a plane at Cleveland. Ford trimotor planes carry air freight from the Dearborn factory to branches in Buffalo and Chicago. Shipments are picked up at the factory by truck and taken to the plane

Photo at bottom courtesy Ford Motor Co.

cial types of trucks which are not in standard production at this time. The functions of these two, which possibly may be combined in one unit, will be described in succeeding paragraphs dealing with use of trucks at airports.

In preparing to sell trucks for airport use, successful salesmen will fortify themselves with knowledge of this new vocation, as they would with any other new field. Familiarity with the Department of Commerce airport rating regulations will be helpful. General design, layout and equipment of commercial airports are based upon these regulations, and as owners of airports naturally desire good ratings, they follow the requirements set forth in the regulations as closely as possible. Several of the regulations call for services which are obviously truck jobs. The more active airports are using trucks for these purposes, and it is certain that all rated airports will have one or more trucks.

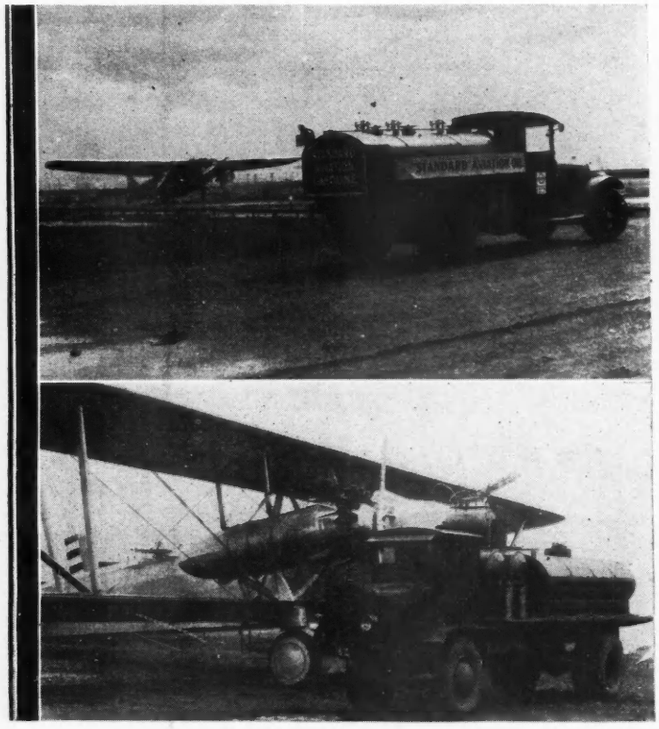


An airport job for which a special type of truck is needed. Planes now are pushed by hand about the field and into and out of hangars. A power unit to take the place of the dolly and man power would save much time and labor

The basic requirements for rating an airport include the provision that "The airport shall be provided with facilities for supplying aircraft with fuel, oil and water." The "A" rating, which all airport owners desire, also calls for:

1. Repair equipment sufficient to permit changing of engines and landing gear and equipment for major engine and plane repairs.
2. Adequate equipment for removing snow from landing areas or landing strips, or equipment for packing snow sufficiently to permit safe landing and taking off of aircraft.
3. First aid equipment, consisting of an ambulance, or some vehicle which can be used as an ambulance, equipped with the following: First aid kit, drinking water, crowbar, wire cutters, hack saw, cloth-cutting shears, fire extinguisher, two litters.
4. Adequate fire-fighting equipment.

The "B" rating also requires facilities for changing engines and making minor repairs, and equipment for snow removal, first aid and fire fighting as for "A" rating. "C" rating also requires first aid and fire-fighting equipment.



Official Photograph U. S. Army Air Corps.

Several types of tank trucks have been developed for fueling airplanes on the field. One of the new Standard Oil Co. of N. J. trucks is shown at top on the Newark, N. J. airport. A heavy duty fueling unit used by the U. S. Army Air Corps for transporting gas, oil and water and pumping it into planes is shown above

Fueling planes is a common airport truck job. At first, curb type portable gasoline tanks were mounted in express body trucks, and oil and water were carried in cans. This combination acquired the title of "gasoline buggy" and is still used at many of the smaller airports. With an increase in number of planes to be fueled and in size of plane fuel tanks there came a need for better equipment, and tank trucks of various types were developed. The U. S. Army Air Corps made use of trucks left over from the World War and mounted tanks on them. A typical truck carries 40 gal. of water, 300 gal. of gasoline, 40 gal. of oil and an air compressor and pressure tank. Fuel is pumped by power from a power takeoff. A larger type, illustrated, has been developed for carrying fuel long distances, if necessary. This unit carries 1000 gal. of gasoline and 100 gal. each of oil and water.

Several truck makers are working out standardized tank units for mounting on chassis for plane fueling. These designs will simplify mounting and will enable dealers to quote on a complete fueling unit.

Some of the fueling units are modifications of tank trucks already in use, hand or power pumps being added in order to discharge fuel and oil into airplane tanks. Other fueling units have been specially designed for the purpose and they incorporate flow meters which register the amount of oil and gasoline discharged into the plane. An air compressor and tank for inflating landing wheel tires adds another function to these units. Carrying capacity has not been standardized but 1½-ton trucks are popular for this duty.

Sale of gasoline and oil is a concession at most airports. It may be retained by the airport management, sold to an oil company, or sublet to companies owning or occupying hangars.

Trucks are well adapted for the operation of changing engines. Every well-equipped airport should have one

truck with crane attachment, or a tractor, according to an official of extensive experience in aviation. He suggests that the crane unit be owned by the municipality, or other owner of the airport, and rented to airplane owners at so much per engine exchange. Airplane engines are mounted so high that it is difficult to take them out without special equipment. If no truck is available, engines are exchanged by placing a portable stand in front of the plane and working the engine forward and on to the stand or by pushing the plane into a hangar and lifting the engine by means of a chain hoist attached to a hangar roof truss. Hangar space is at a premium at most airports and it is much more convenient to change engines outdoors if possible. Moreover, airplane engines are valued up to $10,000, and even more, apiece and the cost of accidentally dropping one during an engine exchange will buy two or three trucks equipped with "sky-hooks."

The truck required for exchanging engines should be similar to an automobile wrecking truck except that the crane must be much higher, according to several who pointed out the need for these trucks. A Fordson tractor with a crane and power winch is employed for engine exchanges at the Ford airport in Dearborn. Tractors serve very well for the purpose but a truck equipped with a demountable crane might well be used for many other purposes about an airport.

Removal of snow is usually the function of the highway or street cleaning departments of municipalities and if the airport is owned by a municipality these departments will attend to snow removal at the airport, in most cases. However, because the area of an A1A (the ideal rating) airport is considerable it may be necessary to add to dump truck equipment of the public works department to take care of this extra work. Owners of commercial airports, not having municipally owned equipment available for this purpose, are obliged to make some provision for snow removal to retain ratings.

First-aid equipment and adequate fire-fighting equipment obviously are truck jobs. Any light duty truck is qualified to meet the Department of Commerce requirement of "some vehicle which can be used as an ambulance." Fire-fighting equipment required for rating depends upon size and number of buildings, hazard exposure and other factors and is determined by representatives of the department, who are guided by the standards of the National Board of Fire Underwriters.

A general utility truck is required at every busy airport. There are innumerable jobs for this truck. It is used for field maintenance, carrying supplies, running errands and doing the thousand and one other tasks which must be done, and done quickly, at airports. To mention a few jobs, the truck makes trips around the border of the field for inspection of border lights, or carries out lanterns at night if electric border lights have not yet been installed; takes a man or two with shovels and a wheelbarrow out on the field to fill in a hole or rut, and finally it is the chief means of contact with the adjoining city. Airports take up a lot of room and this fact emphasizes the need of general utility trucks. It is a long walk for a busy man from one end of the "line" to the other at any good airport. Edges of the field are still more remote. An A1A airport must have at least 2500 ft. of effective landing area in all directions, or landing strips 500 ft. wide and not less than 2500 ft. long with clear approaches, permitting landing in at least eight directions. With such a space to cover it is evident that the administrative staff of an airport needs motor transportation.

Management of a municipally owned airport may be in the hands of the city commissioners, park commission, highway department, special commission or city manager. Larger airports usually have an airport manager who is responsible to the board or commission having jurisdiction over the airport. Whether purchases are made through the city department or commission or a municipal purchasing department truck salesmen should

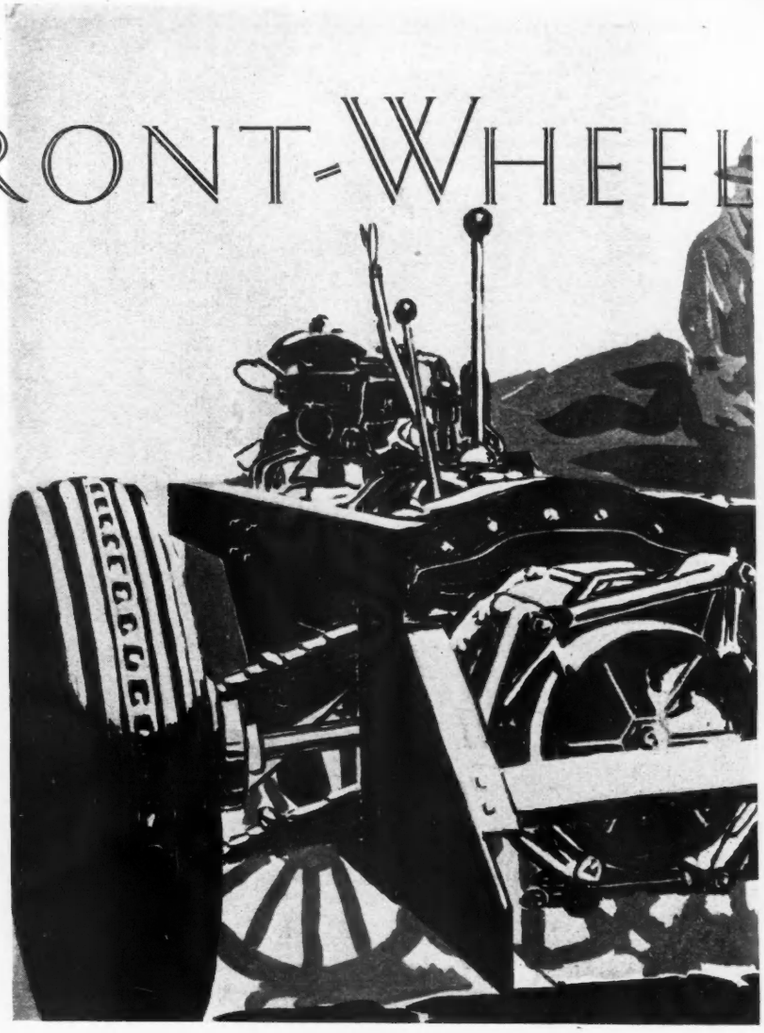
(Turn to page 58, please)

Motor vehicles are performing a variety of services at airports which are of value to commercial aviation. A general utility truck is needed at every active airport. A typical truck of this type shown at top is used at Hoover Field, Washington, D. C., and another type, shown at next below, is used by the U. S. Air Corps at Wright Field, Dayton, Ohio. Transport companies also use utility trucks, such as that third from top owned by Thompson Aeronautical Corp., air mail contractors and operators of passenger service between Cleveland and Detroit. Passengers are carried from hotel districts to planes by buses belonging to transport lines. The bus shown above is operated by Stout Air Lines in Cleveland

CAN FRONT-WHEEL

Development Now Appearing in Passenger Car Field Has Advantages and Disadvantages When Applied to Commercial Vehicles

By P. M. Heldt
Engineering Editor, Automotive Industries



AMONG the problems of design that are interesting motor vehicle engineers at the present time is that of front-wheel drive. It is not a new subject, for front-wheel drives have been invented ever since the advent of the gasoline vehicle; but ideas regarding the particular utility of front drive have changed a good deal. At least some of the early inventors were of the opinion that since both horse-drawn vehicles and railway cars are normally pulled instead of pushed, there must be an advantage in the pulling action. Today it is well known that, so far as the efficiency of the drive

Below: Rear end of Vomag front-drive chassis, showing absence of rear axle, the rear wheels being mounted on cranked stub axles

Possible Advantages of Front-wheel-drive Application to Trucks

Low floor height, facilitating loading and unloading.

Less skidding tendency.

Unit powerplant and front axle assembly, which because of its interchangeability would eliminate need for reserve vehicles during overhaul periods.

Reduced unsprung weight and decreased wear on wheels and tires by combining front drive with independent springing.

No propeller shaft.

Easier to furnish trucks in various wheelbase lengths.

Body wheelhouses can be eliminated by varying rear wheel tread.

Possible Disadvantages

To get same limiting traction obtained with rear-driven trucks, about 80 per cent of the total weight would have to be carried by the front axle.

Difficulty to obtain attractive design and equal tire loads due to the unusual weight distribution.

Steering effort would be three times as hard as with present trucks, which carry only about one-fourth the weight on the steering wheels.

DRIVE AID TRUCKS?

Editor's Note—COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE has assumed that announcements of impending front-wheel-drive passenger cars have caused thinking truck men to speculate on the chances this theory has of penetrating to the American truck field. The purpose of this discussion is solely to anticipate their desire for expert information by giving the ... monthly critical appraisal. The *pro* and *con* treatment ... truck operators, dealers, salesmen, mechanics and ... executives to form personal opinions.

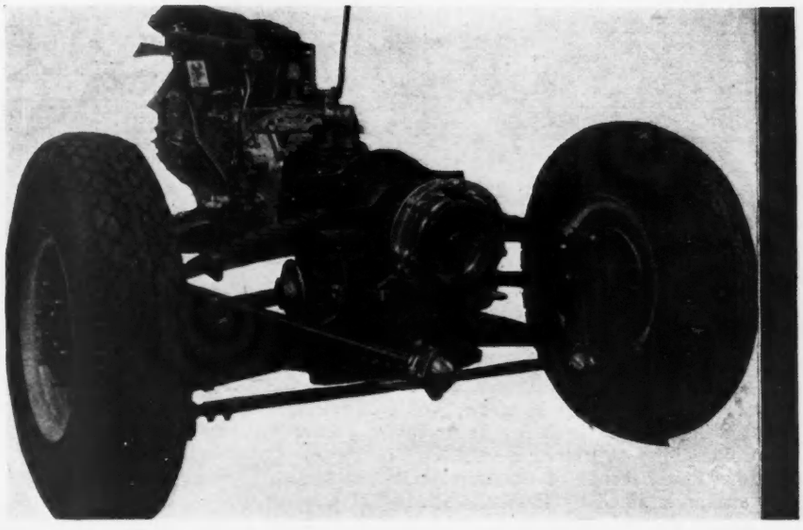
is concerned, on hard roads at least, it makes no difference whether the drive is applied to the front or the rear wheels; that is, with the same weight vehicle, the same forwardly projected area and general form, at the same speed over the same roads, front-driven and rear-driven vehicles will consume the same amount of power. Hence, if front drive is adopted in any particular case it is with other objects in view than a saving in motive power.

The front drive probably has made the most progress so far in its application to racing cars, particularly racing cars for use on closed-circuit tracks. The reason for this is that front-driven cars hold the track better and permit higher speeds at the curves.

In passenger-car practice the front drive has appealed to engineers because it eliminates the propeller shaft connection to the rear axle and thus gives almost complete freedom with respect to lowering the body floor. In fact in the front drive Ruxton car, which will shortly be in production, the floor is so low that steps and running boards are omitted and passengers step directly into the body from the curb or ground.

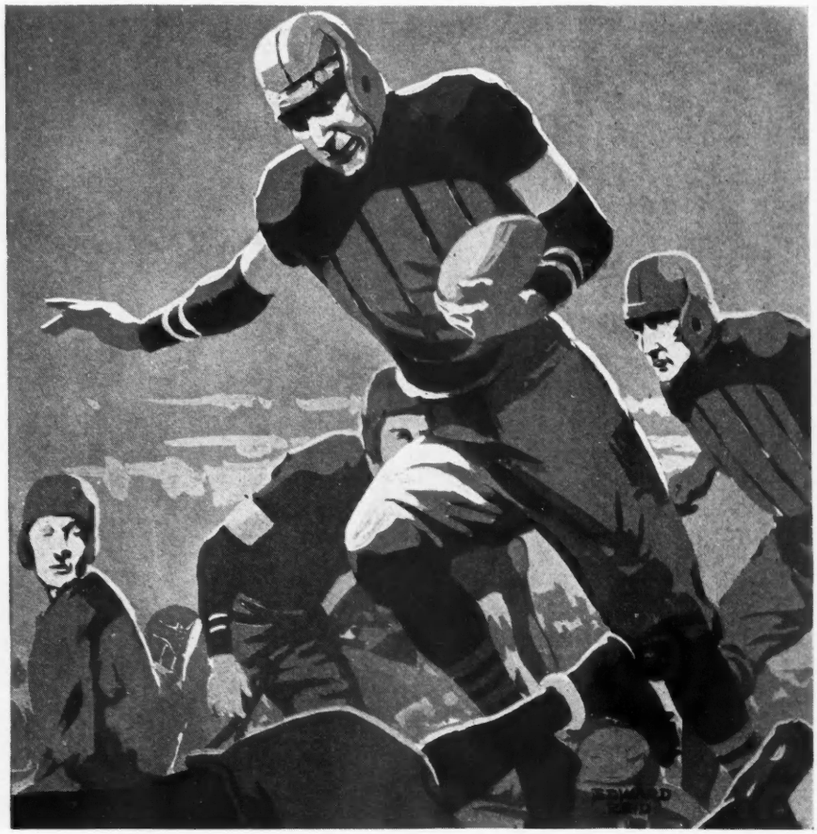
Applications of front drive to commercial vehicles in the past have been mostly to special-purpose vehicles. Walter Christie, who has been the foremost champion of the drive in this country, made a motor fore-carriage

(Turn to page 48, please)



A sketch of a Vomag front-drive unit is shown above in color. Note large service brake on final drive housing. At the right is a Voran unit, showing independent springing of front wheels and radius rods extending from steering heads to frame

FOOTBALL SIGNALS



CITY OF NEW YORK
DEPARTMENT OF PLANT AND STRUCTURES
CENTRAL MOTOR REPAIR SHOP
TRUCK INSPECTION REPORT

SHOP ORDER NO. _____
ADDITIONAL NO. _____
DATE _____
MODEL _____
FLOOR _____
DEPT _____ DEPT NO. _____

Cylinder Block and Head		Starting Crank		Fan	
0301	Cylinder block	1200	Starting crank	1800	Fan
0327	" " head	1204	" " handle (grip)	1802	" belt
0333	" " water outlet manifold	1224	" " ratchet shaft	1804	" bracket
0350	" " sleeve	1214	" " support		
		1250	" " housing		
		0714	" " ratchet (crankshaft)		
Valves and Lifters		**Governor**		**Water Pump**	
0400	Valves	1310	Governor assy.	1900	Water pump assy
041300	" grind—carbon clean	1318	" housing	192337	" " stuffing, box packing—Renew
				Engine Oiling System	

Truck inspection report on which inspector inserts proper operation number to denote work required

SIGNALS—27—34—16." As the quarterback calls signals he tells his teammates just what to do. His message is just as complete and definite as a detailed and lengthy explanation.

A numerical system of designating maintenance operations which is quite as snappy and informative as football signals is used in the New York City Central Motor Repair Shop. At present approximately 4100 motor vehicles of various departments of the municipality are maintained by the Central Motor Repair Shop. The plant, which is located at Sixteenth Street and Avenue C, is operated by the Department of Plant and Structures, Albert Goldman, Commissioner.

An inspector seeing a loose muffler support bracket writes "46" beside 1530 on his inspection report. The figure 46 is a numerical verb meaning "tighten"

STANDARD REPAIR OPERATIONS

01 Adjust
02 Align
55 Assemble
31 Battery Charge
65 Build Up
60 Bushing Renew
61 Bushings Renew
03 Clean
04 Clean and Adjust
54 Disassemble
06 Drain, Wash out and Refill
07 End Play Remove
08 (Overhaul Exchange)
66 Equalize
18 Fill
63 Fit up
14 Free up
15 Gasket Renew
16 Grind
17 Hole Fill
09 Inspect and Report
10 Inspect and report for first class condition
11 Inspect and report for running condition
12 Inspect, report and proceed with repairs for first class condition
13 Inspect, report and proceed with repairs for running condition
48 Inspect for leaks and report
21 Install
22 Lengthen
49 Letter per Instruction
23 Lubricate
24 Machine
25 Overhaul
26 Overhaul No. 1
27 Overhaul No. 2
28 Overhaul No. 3
29 Overhaul No. 4
32 Paint
33 Reface
34 Reinforce
56 Reinstall
35 Reline
36 Remove
37 Renew
51 Renew—Bent
52 Renew—Broken
53 Renew—Stripped
58 Renew—Part Missing
30 Renickel
39 Repair
62 Rerivet
64 Reset
57 Resilver
40 Respace
67 Reverse
38 Shim up
41 Shorten
42 Side Play Remove
43 Solder
44 Straighten
50 Stripe per Instruction
45 Test
46 Tighten
59 True up
05 Upholster
47 Wash
20 Weld

Standard repair operations which are written as needed beside part numbers on inspection report

FOR JOB ORDERS

Numerical Code Used By New York City Repair Shop Tells Part to Be Fixed and Extent of Repairs

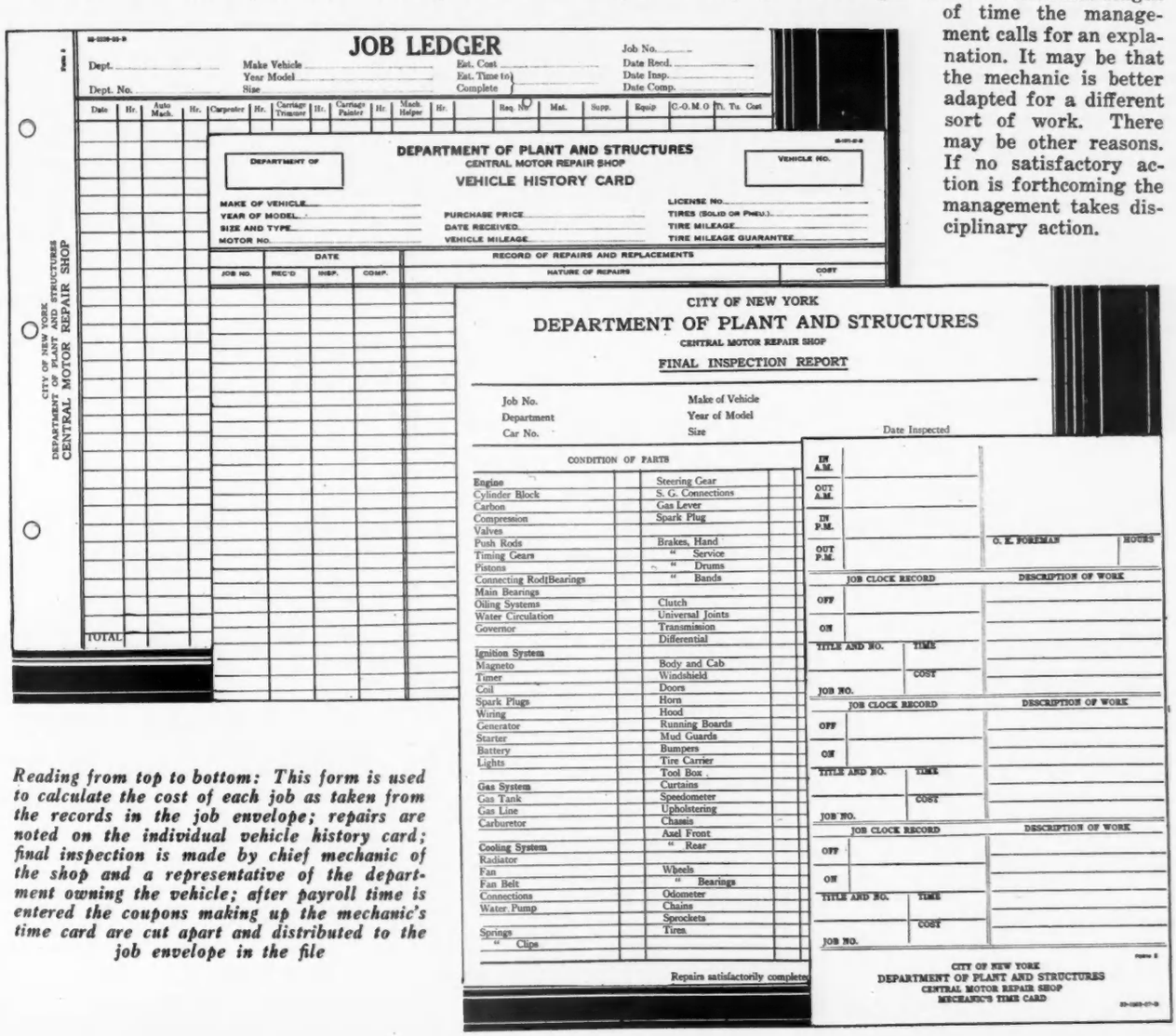
and 1530 is the part number of the muffler support. He can order any job, from a minor inspection to a complete overhaul of a unit, by writing only two figures. There are 67 of these standard repair operation numbers covering inspection, adjustment, repair, exchange of units and painting.

Obviously this plan saves time in writing up truck inspection reports but it has other, and perhaps, more important advantages. It tends to make notations by different inspectors more uniform because the report contains the name and number of each part to be inspected and any given operation always is expressed in exactly the same manner, irrespective of make of truck or personal ideas of inspectors.

On every job, time for each operation is estimated and a comparison is made between this time and the time actually used by each mechanic. Estimated time, or "par," as golfers say, is based upon analysis of operation time charges for a large number of jobs.

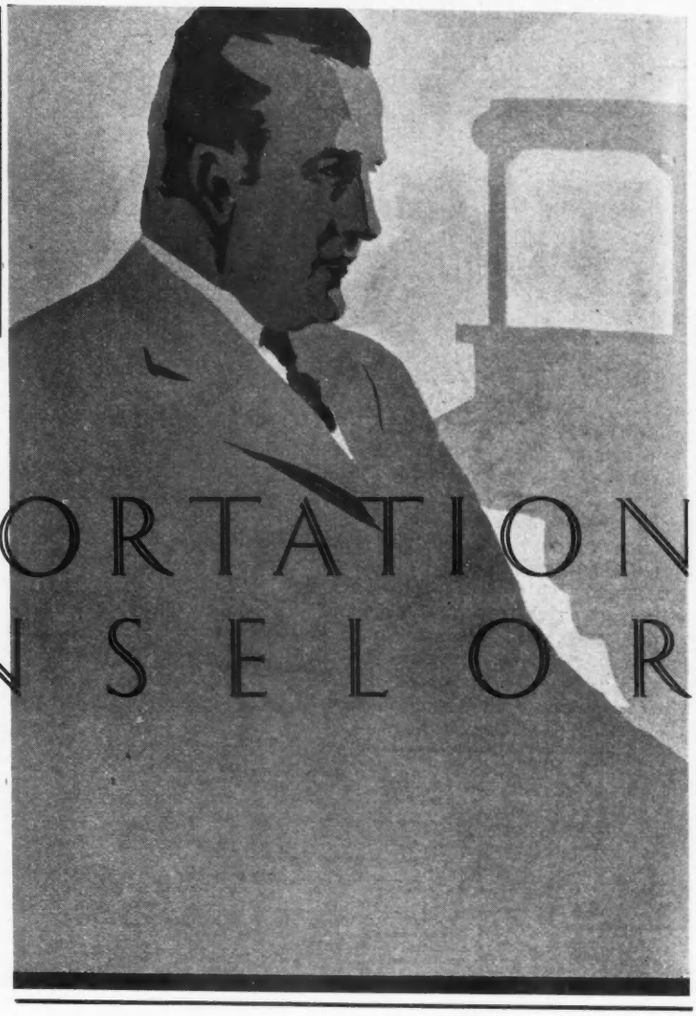
The numerical system simplifies entry of operation time charges and keeping of general maintenance records. Operation "041300" is a carbon and valve job. A ledger account headed 041300 is established for each make of vehicle and the mechanic's time for each job is posted into this account. With these entries as a basis the standard time allowance is determined, due allowance being made for such factors as recently introduced equipment, change in procedure or vehicle design alterations.

After a standard operation time has been determined it is used to measure efficiency of individual mechanics. The management does not expect each job to be completed exactly on par time. But in general standard time is well within the capabilities of average good mechanics and they are expected to meet it. In the case of individual jobs, any variation from normal is checked by floor foreman. However, if a mechanic is below par for a considerable length of time the management calls for an explanation. It may be that the mechanic is better adapted for a different sort of work. There may be other reasons. If no satisfactory action is forthcoming the management takes disciplinary action.



Reading from top to bottom: This form is used to calculate the cost of each job as taken from the records in the job envelope; repairs are noted on the individual vehicle history card; final inspection is made by chief mechanic of the shop and a representative of the department owning the vehicle; after payroll time is entered the coupons making up the mechanic's time card are cut apart and distributed to the job envelope in the file

By
Mandus E.
Bridston



TRANSPORTATION COUNSELOR

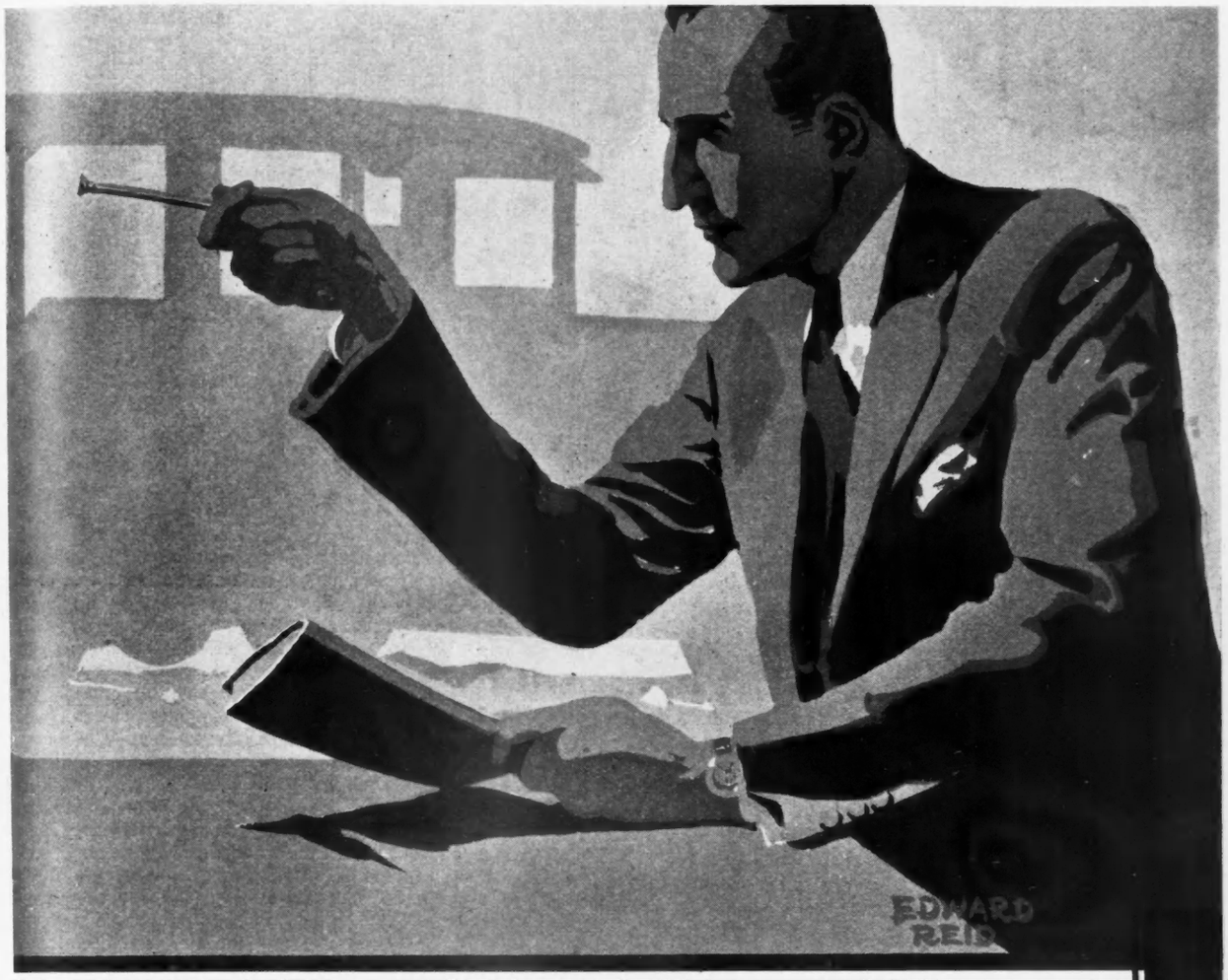
A Salesman Who Knows Transportation, Can Analyze Savings in Dollars and Cents and Improve Operating Efficiencies is Entitled to This Term

Nels Johnson, manager truck division, Lamping Motor Co., Reo distributor, Seattle, Wash., talking to a prospect in the language he understands

"I'M a truck salesman." Not much in that phrase to make a fleet operator or P.A.'s heart skip a beat, and extend that glad hand that eventually reaches the dotted line. Neither does the usual supplementary patter contribute to this end: "Say, Mister, we got the BEST truck on the market! Speed, endurance! Boy, she's all there! Just what you've been looking for! Axles, gears, bearings, you just ought to give 'em the once over!" Ad nauseam . . . . at least it gets to be to the prospective truck purchaser after a half dozen salesmen have assured him that each and every one has the BEST truck made!

Admitted that a good many trucks have been sold by this approach, the fact remains that the average fleet operator in the market for trucks is just as motor-wise as the salesman, and knows that all standard makes of trucks must be good or they wouldn't be in the running very long. Hence a lot of comparative hokum that is the chief weapon of the high-pressure salesman or the salesman who hasn't given the matter much thought, is just wasted breath.

That's a thumb-nail sketch of the selling credo of Nels Johnson, in charge of the truck division the the Lamping



Motor Co., Reo distributor, Seattle, Wash. His record as a truck man adds weight to his views. He has won two first honors and one third place in the monthly contests of the Reo Motor Company, with a total gross volume during the last six months of 1928 of about $150,000.

But Johnson won't admit he's a truck salesman; he always introduces himself to a prospect as a "transportation counselor." That's a bird of a different color. Yet, it must be more than a glib phrase to be potent.

It is interesting to analyze the selling psychology back of the simple term. It implies a knowledge of the thing that is most vital to the prospect—transportation in its broadest sense. Not merely knowledge about hydraulic brakes, gears, bearings, axles, and so on, but an understanding of the factors that solve or involve a prospect's problem of making his transportation dollar return one hundred cents in service. The prospect is looking for leaks through which his pennies dribble, and only insofar as the truck salesman can find the leaks and stop them can he fairly use the term "transportation counselor."

The average salesman is interested in the superiority of the equipment he sells; the transportation counseler is interested in solving the problems for his client. Selling follows as a matter of course, because the truck man is *talking a language the prospect is interested in and understands.* The transportation counselor approaches his prospect from the *prospect's point of view;* he's on the prospect's side of the fence. That's why there is magic, not only in the phrase, but in the approach and procedure that it implies. Johnson outlined a hypothetical case in illustration:

For instance, there is a firm that makes deliveries in outlying districts and in the smaller towns, the driver incidentally taking orders. Johnson approaches the manager of the firm, somewhat in this fashion:

"How much mileage do your trucks cover?"

"I don't know. I'd ask the driver."

"How many stops do your trucks make per day?"

"Really, I don't know, I'll find out."

"What is the capacity of your load, on an average?"

Still the manager doesn't know.

"I'd like to get a line on what your fleet is doing," Johnson suggests. "I might be able to suggest some improvements; that's my business, you know. I'd like to make a trip with one of your drivers, if you don't object."

"Not at all. If you can help me cut down my truck cost, you won't hear me squawk!"

Johnson proceeds to spend a day with a driver He finds out the average load carried, whether it's a diminishing load, or remains fairly constant by virtue of pick-ups, such as would be the case of a bottling firm, ice cream, milk, etc. He checks gas and oil, mileage time on the road and so on. He decides what equipment would do the job best. The following day he shows up with that equipment. More than likely, he gets back with the truck a couple of hours earlier than the previous day, because he has chosen a faster piece of equipment.

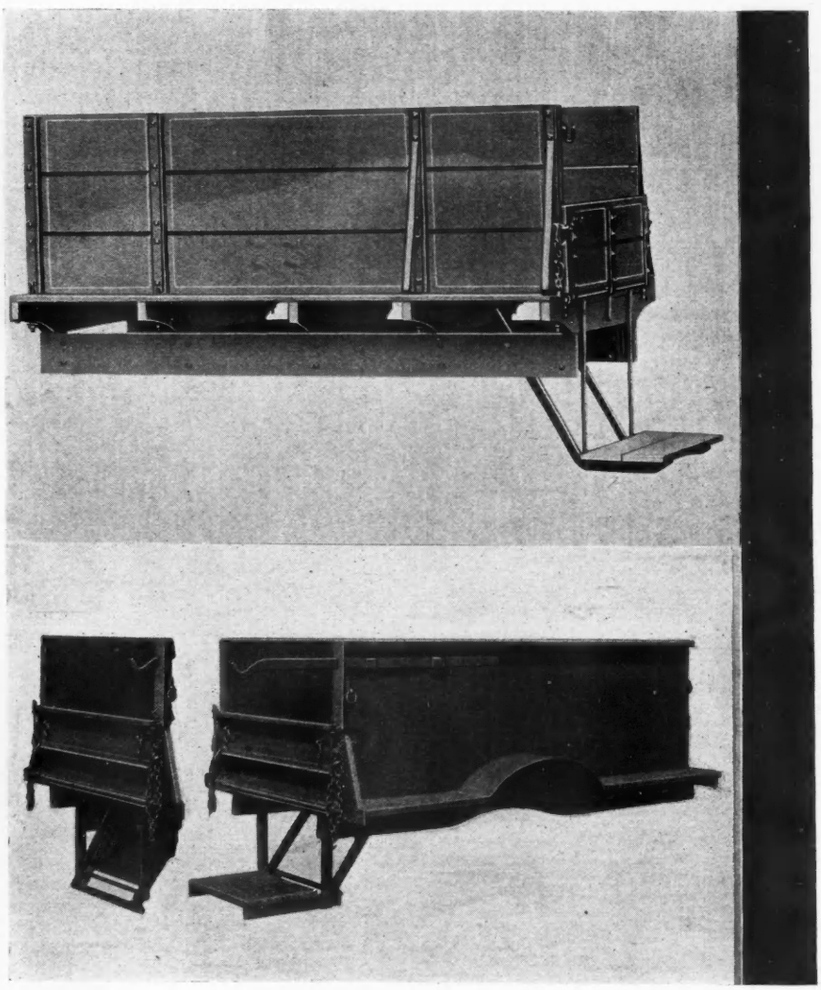
Now he's ready to talk new trucks for he knows more about the firm's *(Turn to page 44, please)*

OPEN ICE BODIES

New Roofless High Side Express Type Body is Lighter, Cheaper and May Be Used for Other Services

THERE is probably no vocation where body equipment has undergone a more complete change during the last few years than the ice distributing field. It was not so long ago when mention of an ice body created in the listener's mind an image of a heavy, round-roofed, rear-peaked vehicle much akin to the old-fashioned ice-wagon.

Ice equipment used in retail delivery today bears but little resemblence either in appearance or construction to the old type. Transition to the present type has been due to several reasons, chief among which are: Recognition by ice dealers of the economy of motor-driven equipment over horse-drawn; elimination of the need of a solid heat insulating roof because of quicker deliveries made possible by use of light weight bodies on light capacity chassis; lower body cost, and the demand for a body that would be of practical service in other fields of hauling or delivery during off-peak periods. Because of these conditions the evolution to the type in vogue today has been rapid and may be briefly described as a body having straight sides from 3 to 4 ft. high, open top with canvas covering carried on rails, open rear with canvas flaps and single or two-part tail-gates from 8 to 15 in. high. The rear step is the only major part in the modern ice-body that has its counterpart in the old-style type but even this is distinctive because of its construction and in some jobs because of its folding feature.



While the stock and custom-built ice bodies available today are similar in general construction, they differ in many minor details of construction and refinement, which the following review of different makes will reveal.

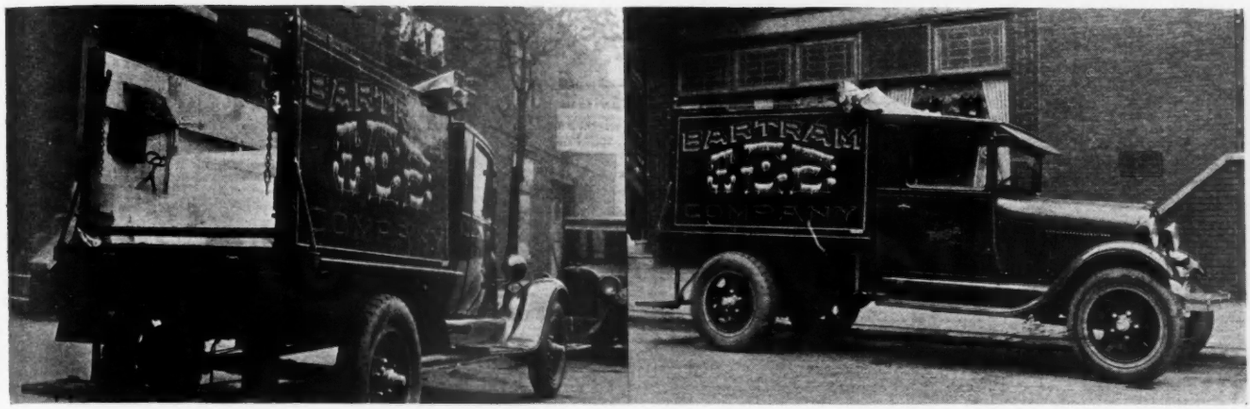
The unit offered by Martin-Parry Corp., York, Pa., designed for mounting on a 1-ton chassis, is 96 in. long, 46 in. wide and 34 in. high (Fig. 1). The floor, bolted to four cross-members, is of 1¼ in. yellow pine. Pine was selected because of its rosin and turpentine content and its consequent ability to resist the warping action of water. Posts are of 2½ x 1¾ in. oak slightly tapered at the top to give a finished appearance. They are reinforced by heavy forged wrought iron braces on the outside and iron straps on the inside. Panels are of yellow poplar bound on top with angle iron, which acts as a wearing strip. Front and side panels are tied together at corners with inside and outside angle irons bolted through the panels. The tail-gate is 15 in. high, heavily ironed and reinforced with a bridge bar. Holding chains are furnished.

A custom-built job, departing in a number of minor details of construction from more general practice, is a body built to specification by Geo. W. Garrett & Sons, 3908-14 Spring Garden St., Phila. This body (Fig. 5), 80 in. long, 46 in. wide and 40 in. high, has smooth sheet steel panels. The owner desired the outside surface to be free

Top: Fig. 4—Hercules wood ice bodies are offered for various chassis makes and capacities

Bottom: Fig. 3—Hercules all-metal ice body. Note folding step, scale bar and wheel housing

REDUCE WEIGHT



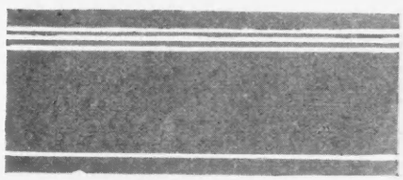
of posts and braces so as not to break the lettering and to improve appearance.

Mounting is conventional, consisting of two sills bolted to the chassis side rails and four cross members. The floor is built in two layers with a canvas sheet in between for waterproofing. Running boards extend 5½ in. beyond the side panels. Side panels are supported by four posts reinforced by irons strapped to the floor and two horizontal 1 x 5 in. boards bolted to the posts on each side. Rear end posts are further reinforced by heavy inside straps the vertical legs of which correspond to the height of the posts while the horizontal legs extend almost to the center line of the body and are imbedded between the floor boards. The outside is braced by a jack-arm construction of heavy irons.

Although this job was originally furnished with rails along the top edges of the side panels to carry the canvas top, the operator replaced these with wire secured closer to the edge so that the canvas top would extend over the edges and eliminate the space that formerly existed between the rail and top of panel. Two sets of holding chains are carried by the rear posts, the upper set of which is operated by a crank. The tail-gate is of the one-piece type and is held in closed position by lock-pins chained to the rear posts. The rear step is non-folding and of ample dimensions, 13 x 50 in.

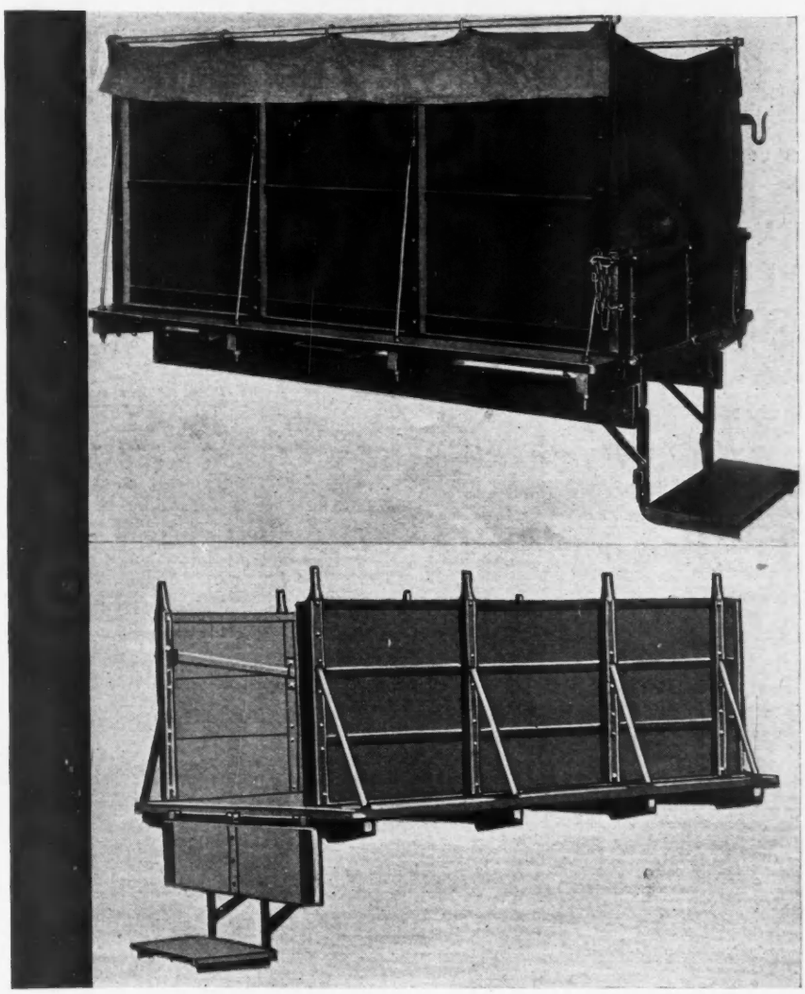
To save the inside panels from the ice-man's pick, the section between the rear post and the next post is lined with sheet steel. Because of this provision the ice-man, instead of jamming the pick into the wood sides, is compelled to replace it in the rack provid-

Fig. 5—Custom-built Garrett ice body. Note the smooth sides, interior construction and ice retaining bar



ed for it. To prevent ice from sliding around in the body, 2x2 in.

(Turn to page 60, please)



Top: Fig. 2—Ice body offered by Collings Carriage Co., equipped with top and rear curtains

Bottom: Fig. 1—New Martin-Parry ice body without tarpaulin top

GETTING ACTUAL

Cost of Operating Trailers.

FIXED CHARGES	
Interest (3.5 per cent based on 6% on 6 year life average)	.0090
Insurance (same as trucks)	.0110
Garage	.0205
Taxes	.0198
Depreciation ($1,800 less tires but including air brakes on both truck and trailer)	.0428
VARIABLE	
Driver's wages	.0250
Repairs to truck	.0200
Repairs to trailer	.0100
Tires (20,000 mi.)	.0150
Extra gasoline and oil	.0200
Miscellaneous	.0025
Total operating	$0.1956
Terminal costs	0.1064
Total	0.302

Insurance includes public liability, $25,000/$50 [illegible] property damage, fire and theft, collision, $100 deductible and workmen's compensation. Driv[illegible] wages are based upon a mini[illegible] allowance for mi[illegible]

Cost of Operating Trucks

FIXED CHARGES	
Interest 6%, 5 year life average 3.6%	.0086
$5100 on investment less tires.	
Insurance	.0202
Storage	.0105
Taxes	.0098
VARIABLE	
Driver's wages	.0800
Depreciation on 100,000 mi. basis	.0500
Chassis repairs	.0331
Body and cab repairs and painting	.0063
Tires 18,000 mi. average	.0241
Gasoline	.0492
Oil	.0053
Grease	.0031
Miscellaneous	.0080
Operating and maintenance per truck mile	.3082
Terminal Cost	.1064
[illegible]	.4146

WHEN a four-wheel trailer is pulled by a motor truck which is also carrying a load there is an increase in carrying capacity and in revenue per trip, compared with the truck alone. If the operation justifies the use of trailers this additional income obviously exceeds the cost of operating the trailer. In many cases operators wish to know this trailer cost apart from the combined cost of operation of truck and trailer.

Total cost of operation of a trailer is made up of fixed and variable charges for operation and maintenance of the trailer plus the extra cost of operation and maintenance of the truck due to the fact that it is pulling a trailer. Labor cost is also likely to be increased because there is more freight to be loaded and unloaded.

Figures showing how much it costs to operate four-wheel trailers in intercity motor freight service here given are based on our experience. Costs are given for operation of trucks without trailers and for the trailers separately from the trucks. Trailer figures include the extra cost of fuel, oil and maintenance of trucks due to trailer operation.

The trucks are operated daily between Boston, Worcester and Springfield, Mass., a distance of 95 miles and average 80.3 miles per day 263 days per year. The four-wheel trailers run approximately 7000 miles per year, being operated only in dry weather. The trip includes grades up to 6 per cent. The trucks carry an average load of 14,000 lb. westbound and 4000 lb. on return trips.

Two items included in trailer costs are extra gasoline and oil required by the truck to pull the trailer, which is given as 2 cents per mile and a maintenance reserve to cover extra cost of maintenance of the truck, due to trailer operation, which is also 2 cents per mile.

Total cost per mile for trailer operation, including fixed and variable charges and driver's wages is 30.20 cents per mile, as shown in the accom-

TRAILER COST

Fleet Operator Determines How Much It Costs to Operate a Four-Wheel Trailer and to Pull It With a Truck

By Irving Malkin

Manager, Malkin Motor Freight Co., Boston, Mass.

Comparison of Truck Costs

	June 1, 1920 to Sept. 20, 1924	Sept. 20, 1924 to Sept. 20, 1926	Sept. 20, 1926 to Dec. 31, 1928
Operating per truck mi...	.3847	.3459	.3082
Terminal per truck mi...	.1506	.1203	.1064
Total per truck mi.....	.5353	.4662	.4146
Cost per ton mi.....	.1068	.0932	.0924

Left: Truck and four-wheel trailer owned by Malkin Motor Freight Co., Boston, loaded with 30,000 lb. of oranges at the Boston & Main freight auction terminal in Boston and consigned to Worcester, a distance of 45 miles

panying table. Fixed charges total 10.21 cents per mile, driver's wages 2.5 cents per mile, and repairs, tires, extra fuel, etc., 6.75 cents per mile. Terminal costs, which include salaries of terminal staff, rental of space for loading, office expense, pick-ups and cargo insurance, equal 10.64 cents per mile. To determine terminal costs the total mileage of the fleet and that of hired trucks is totaled and divided into the charge to this account.

A comparison of truck operating costs for three periods is given in the accompanying table. The last period reported is from Sept. 20, 1926, to Dec. 31, 1928, and the separate items which make up operating costs of 30.82 cents per mile are shown in another table.

Our operating costs have decreased from 38.47 cents per mile in the first period to 30.82 and our terminal costs have dropped from 15.06 cents to 10.64 cents per mile.

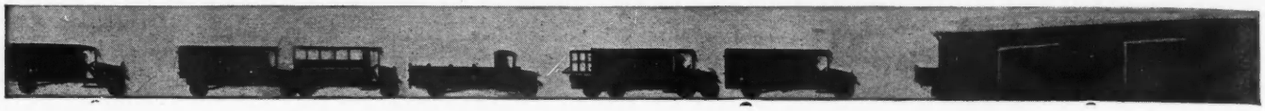
Decrease in overhead is due to building of terminal markets in Boston making it possible to carry full loads on most trips westward. Our operating costs are lower because roads are better, trucks move faster and cover more miles per day, fuel costs less, tires are better and cheaper and trucks last longer.

Despite these decreases the ton-mile cost has decreased only from 10.68 cents per mile for first period to 9.24 for the last. This is caused by falling off in tonnage on return trips. We find that it sometimes pays better to run the truck back empty and have it ready for a westbound load rather than tie up the truck waiting for a return load at a very low rate.

Our fleet comprises: One 7½-ton four-cylinder worm drive truck with 36 x 7 in. solid tires front and 40 x 14 in. solid rears. This unit pulls a trailer and is equipped with Westinghouse air brakes. One 7½-ton four-cylinder chain drive with same tires and brakes as first truck. Two 5-ton four-cylinder worm drive trucks, with solid tires 36 x 6 front and 40 x 12 rear.

One 4-ton six-cylinder worm drive, pneumatic tires 38 x 7 in. single front and dual rear. Two four-wheel 5-ton trailers, solid tires 36 x 8 in. front and rear, Westinghouse air brakes.

The six-cylinder unit is 10 months old at the present writing and to give cost records at this time would be merely guesswork. So far we do not know what the life of this truck will be and what the repairs will cost. Fuel and tires are higher per ton-mile than the four-cylinder solid tired truck. However, the six-cylinder outfit makes much better speed which is an advantage.



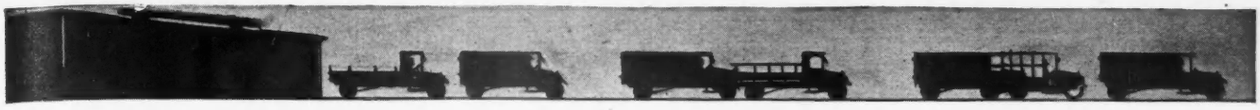
NEW TRUCK SALES

Complete Figures for March, 1929; Totals for

		Acme	American La France	Atterbury	Autocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge Bros.	Fargo	Federal	Ford	G. M. C.	Gotfredson	International	Larrabee	Mack	Moreland	Pierce-Arrow	Relay	Reo	Republic	Rugby	Schacht	Selden	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Total Sales by States Including Miscellaneous
ALA.	Mar.						132		8		2	114	3		10		1			1	3							2	2		279
	†3 mo.						337		28		3	328	14		39		3			1	9		1					4	6		775
ARIZ.	Mar.						100		40	1		171	14		10		2				5						3	9	1		2	358
	3 mo.						195		85	2		310	37		59		3	2			13		5				3	20	5	2	5	748
ARK.	Mar.						217	1	19	1		229	4		25						3							1	1	4		507
	Apr.						240		21			356	4		87		2				6							1	4	7		737
	3 mo.					1	432	2	66	2	5	729	27		107						23		2					1	10	15		1,427
CAL.	Mar.	1			16		566		245	12	24	1,342	90	3	53		45	65		1	93	4	11			25	9	24	12	43	1	2,792
	3 mo.	10	1		34	1	1,238	2	663	18	65	3,768	272	11	141		100	172	2	2	251	9	34			88	27	52	25	121	5	7,402
COL.	Mar.						121		24	2	1	126	20		13		3				2							3		1		316
	3 mo.						371		142	3	6	440	81	1	112		7				21	2	5					5	3	15	3	1,220
CONN.	Mar.				3	4	167	3	58	7	3	194	20		21	2	28		3	1	42		1	1			15	7	9	8	1	605
	3 mo.				5	11	362	5	119	16	7	402	40		53	2	54		5	2	98	1	2	1		1	24	14	16	12	2	1,262
DEL.	Mar.						65		4			57	11		7		1		2		4	1	1							4		157
	Apr.				4		53		4			67	8		24				3		9		1						1	2		176
	3 mo.				1	1	111		12			134	18		15		4		2		8	1	2							7		316
D.C.	Mar.				2		50	5	8			94	7		10		4				1					2			1	1		186
	3 mo.				2	2	106	9	12			236	13		13		7				4					2	1		4	4		419
FLA.	Mar.					2	200		12	1	1	307	9		18		2				8	1						1	5	4		572
	Apr.						158	5				182	6		17		6		5		8								3	4		394
	3 mo.					7	394		35	1	2	606	14		36		6				14	1						3	9	9		1,138
GA.	Mar.					6	262		23		1	240	9		11		2											1	3	15		573
	3 mo.					18	664		48		3	633	13		29		4				4							1	13	31		1,463
IDAHO	Mar.						40		8			47	5		11		7				4		3									125
	3 mo.						70		23			117	6		27		8				9	1	7							2	1	276
ILL.	Mar.		2		10	17	997	142	185	10	25	1,149	94	5	266		46		1	4	76	2	16			17	5	4	26	26	4	3,222
	Apr.		4		18	6	848	86	131	11	13	1,123	45	1	188		27		2	11	41	1	1			11	1	5	15	35	3	2,733
	3 mo.		4		23	61	2,008	392	566	42	56	2,956	327	41	856		113		4	19	201	8	25			37	15	10	63	78	13	8,300
IND.	Mar.				1	31	673	9	80	6	6	750	56		86		2			1	43		1	1			10	15	15	12	1	1,806
	3 mo.		1		2	69	1,334	22	252	7	23	1,630	156		262		4		1	5	122		5	1			22	29	34	30	1	4,032
IOWA.	Mar.					5	563		48	7	1	286	11		118		3			1	32		2					7	8	2	1	1,100
	3 mo.				1	8	1,072	2	117	20	5	675	30		313		9			2	57	1	5					8	14	7	1	2,356
KAN.	Mar.						499	3	62	3		361	28		105						20	2						6	12	2	4	1,110
	3 mo.					2	723	5	166	9		688	71		200		3				36	2	1		1			8	28	12	5	1,973
KY.	Mar.					2	154	1	24	1		149	19		39		3				21	2		2					5	4		427
	3 mo.					9	424	8	86	6		454	63		110		9		2	7	45	2	3	4				7	15	12		1,271
LA.	Mar.				1		225	5	25	1	2	255	12		27		3				1								1	9		567
	3 mo.				3	1	458	6	73	2	4	692	30		91		7				8								5	17	1	1,399
ME.	Mar.						101		8			98	1		3						13								1			225
	3 mo.				1		175		18			234	3		7		1				16		2					3	1		1	462
MD.	Mar.		3		16	3	174	10	51		8	208	20		17		19			2	24	1				6	5		1	12		586
	Apr.				11	2	214	7	38	2	2	319	31		39		26			1	26	4				5	3	2	3	14		762
	3 mo.		3		23	4	374	17	92		14	503	48		46		58			5	52	1	1	1		7	14	1	4	32		1,319
MASS.	Mar.	1	3		31	24	408	8	114	25	11	701	73	1	72	7	39		2	1	95		2		3	17	12	9	15	35	2	1,736
	3 mo.	1	7		65	41	750	17	244	42	20	1,541	158	1	149	7	87		5	1	196		2	3	3	26	21	14	29	58	4	3,532
MICH.	Mar.	9			6	2	800	5	108	20	15	1,267	85	4	91		9		4	2	95		3					9	21	14	8	2,603
	3 mo.	20			15	4	1,744	25	282	45	52	2,767	178	12	201		24		8	3	195	1	11	1				14	42	38	9	5,749
MINN.	Mar.						374		37		8	447	24		98		2		1	2	31		2					4	17	6	3	1,056
	Apr.						415	2	36	1	9	485	19		79		5			1	23		3					6	17	9		1,113
	3 mo.						533	2	94	3	11	936	56		173		8		1	2	62		3					6	24	15	4	1,936
MISS.	Mar.						225		4			133	3		6						2										1	374
	3 mo.					1	348		18			237	5		32						10										1	652
MO.	Mar.				7	18	997	35	145	9	37	801	108		188		33				54	3	5			2	1	16	56	23		2,579
	3 mo.				11	29	1,557	96	315	13	60	1,630	191		336		52			1	104	9	10			5	1	19	77	37		4,611
MONT.	Mar.						105		40		2	220	18		96		1		1		13		2					1	1	2	1	507
	3 mo.				3		241		91	1	5	502	34		163		3		2		29	2	9					3	3	7	3	1,110

† April not included in 3 mo. totals.

Figures in this table are compiled by R. L. Polk & Company, of Detroit, except Illinois, which is compiled by the Automobile Sales Record Corporation, of Trenton. Readers desiring



BY MAKES AND STATES

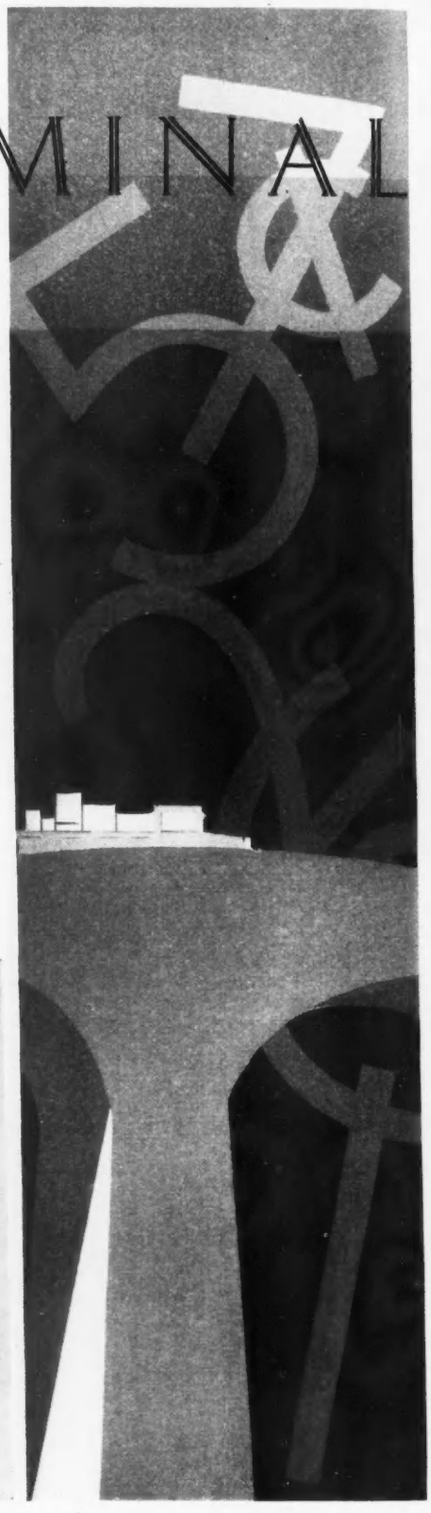
Three Months, and Partial Reports for April, 1929

		Acme	American La France	Atterbury	Autocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge Bros.	Fargo	Federal	Ford	G. M. C.	Gotfredson	International	Larrabee	Mack	Moreland	Pierce-Arrow	Relay	Reo	Republic	Rugby	Schacht	Selden	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Total Sales by States Including Miscellaneous
NEB.	Mar.	..	..	..	..	2	282	1	34	..	1	219	23	..	70	..	1	..	..	..	13	..	2	..	..	..	..	5	1	2	....	657
	3 mo.	..	..	..	..	10	730	3	111	2	1	674	80	..	242	..	9	..	..	..	38	..	4	..	..	..	..	9	2	8	2	1,938
NEV.	Mar.	..	..	..	..	..	16	..	18	1	..	35	..	..	2	..	1	1	..	..	..	..	..	..	..	..	..	1	..	2	1	80
	3 mo.	..	..	..	..	..	59	..	50	2	..	109	7	..	10	..	1	7	..	..	2	..	..	..	..	..	..	1	..	4	1	259
N. H.	Mar.	..	..	..	1	1	71	1	10	..	..	88	6	..	4	..	..	..	..	..	3	..	..	..	..	..	6	..	3	..	..	195
	Apr.	..	..	..	..	4	132	..	20	..	3	159	13	..	8	..	4	..	..	..	18	..	..	..	..	..	1	2	5	1	2	372
	3 mo.	..	..	..	1	1	111	1	15	1	..	143	8	..	4	..	1	..	1	..	7	..	..	..	..	..	6	..	5	..	..	307
N. J.	Mar.	..	8	..	18	25	489	6	78	12	20	604	55	2	48	..	83	..	22	..	57	..	3	2	1	3	8	14	19	35	4	1,694
	3 mo.	2	10	..	46	46	1,041	14	136	27	41	1,423	135	4	101	2	147	..	32	5	129	..	7	4	4	15	17	30	48	73	11	3,755
N. M.	Mar.	..	..	..	..	..	61	..	14	..	..	48	4	..	10	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	139
	3 mo.	..	..	..	..	2	118	..	36	..	3	112	9	..	28	..	..	..	..	..	7	..	..	..	..	..	..	..	2	3	..	321
N. Y.	Mar.	5	8	10	56	150	1,309	66	272	47	18	1,596	117	..	136	18	180	..	35	12	110	..	2	1	10	12	50	21	37	77	1	4,469
	3 mo.	11	33	18	95	343	2,601	126	698	124	53	3,471	260	..	358	32	328	..	62	17	286	2	22	2	24	32	142	30	87	150	2	9,568
N. C.	Mar.	3	..	..	3	1	412	..	40	..	..	272	15	..	13	..	9	..	..	..	6	2	1	..	..	..	..	3	5	..	1	791
	3 mo.	10	..	..	5	6	966	..	168	4	5	986	78	..	59	..	19	..	..	..	21	4	5	..	..	..	3	5	18	7	1	2,394
N. D.	Mar.	..	..	..	..	..	68	..	8	..	2	56	10	..	62	..	..	..	1	..	6	..	1	..	..	..	..	..	2	..	..	226
	Apr.	..	..	..	..	..	185	..	19	..	..	243	14	..	164	..	..	..	..	..	6	..	3	..	..	..	..	..	7	4	3	648
	3 mo.	..	..	..	..	..	173	..	20	..	3	182	25	..	155	..	..	..	1	..	14	..	4	..	..	..	..	1	3	..	1	592
OHIO.	Mar.	5	..	..	12	11	837	16	106	16	12	857	50	1	88	..	25	..	1	2	66	2	2	17	1	1	5	8	42	47	7	2,253
	3 mo.	13	..	..	24	34	1,907	35	276	35	39	2,152	142	5	247	..	55	..	8	5	160	4	7	20	3	3	16	22	96	117	17	5,501
OKLA.	Mar.	..	..	..	..	18	385	4	84	4	5	358	27	..	77	..	8	..	..	..	27	..	..	..	6	..	3	4	9	2	..	1,023
	3 mo.	..	..	..	..	23	854	14	208	16	20	1,046	59	..	206	..	21	..	..	1	54	..	2	..	10	..	7	9	34	22	1	2,613
ORE.	Mar.	..	..	..	..	..	125	..	33	5	6	211	14	..	17	..	6	2	..	..	11	..	1	..	..	1	..	4	..	7	..	450
	3 mo.	..	..	..	..	..	306	..	88	9	16	632	63	..	56	..	12	7	..	..	30	4	6	..	..	1	..	11	6	25	..	1,294
PA.	Mar.	3	2	5	34	65	841	17	207	30	11	1,088	98	6	126	1	50	..	6	9	108	4	8	..	..	20	25	15	36	41	2	2,895
	3 mo.	11	5	6	88	118	1,751	57	543	63	25	2,938	240	16	293	4	137	..	10	31	234	22	18	..	2	56	56	37	80	116	7	7,056
R. I.	Mar.	..	..	..	5	1	85	..	31	3	3	79	16	..	3	..	6	..	..	..	17	..	..	..	..	..	3	..	4	3	..	260
	3 mo.	..	..	..	16	1	134	1	75	5	8	171	30	..	17	..	11	..	1	..	44	..	2	..	..	..	7	1	5	6	..	538
S. C.	Mar.	..	..	..	..	1	186	..	23	..	9	113	5	..	10	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	349
	Apr.	1	..	..	..	..	253	..	11	2	2	186	14	..	18	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	491
	3 mo.	..	..	..	..	2	478	..	63	1	13	431	27	..	52	..	1	..	..	..	6	..	2	..	..	..	1	1	4	4	..	1,086
S. D.	Mar.	..	..	..	..	..	111	1	7	..	..	103	5	..	58	..	..	..	..	..	4	..	1	..	..	..	..	..	2	..	1	296
	Apr.	..	..	..	..	..	88	1	11	..	..	69	6	..	59	..	1	..	..	..	15	..	..	..	..	..	..	..	2	..	2	254
	3 mo.	..	..	..	..	1	231	5	48	1	1	310	25	1	194	..	5	..	..	..	23	..	7	..	..	..	..	..	4	1	3	864
TENN.	Mar.	..	..	..	..	..	221	..	19	..	5	112	20	..	7	..	1	..	..	..	5	..	..	..	..	..	..	1	2	7	..	402
	3 mo.	..	..	..	..	..	541	..	61	3	12	333	71	..	31	..	13	..	..	..	22	2	..	..	..	..	..	7	3	13	1	1,115
TEX.	Mar.	..	..	..	6	12	1,100	9	93	9	2	757	53	..	185	..	11	..	..	3	50	..	4	..	..	..	..	4	12	21	1	2,339
	3 mo.	..	2	..	17	27	2,356	27	302	24	14	2,568	170	..	551	..	36	..	2	20	121	..	14	..	..	..	4	15	35	62	4	6,394
UTAH	Mar.	1	..	..	..	..	61	..	11	1	..	108	3	..	13	..	3	..	..	..	4	..	2	..	..	..	..	1	1	4	..	213
	Apr.	..	..	..	..	..	61	..	17	1	..	100	3	..	9	..	2	1	..	..	..	..	1	..	..	..	..	1	..	6	..	204
	3 mo.	1	..	..	..	..	116	..	39	1	..	232	7	..	32	..	10	1	..	..	9	..	3	..	..	..	..	3	2	5	..	461
VT.	Mar.	..	..	..	..	..	46	..	14	1	2	74	5	..	18	1	..	..	..	..	5	..	..	..	..	..	..	2	..	2	..	170
	3 mo.	..	..	..	..	..	90	..	33	4	6	140	15	..	32	1	2	..	..	..	15	..	..	..	..	..	2	5	2	4	..	351
VA.	Mar.	..	..	..	2	6	423	2	34	..	4	394	14	..	41	..	5	..	..	1	22	2	4	..	..	..	4	1	8	10	..	979
	3 mo.	..	..	..	5	12	674	4	100	1	19	888	49	..	95	..	8	..	..	1	44	15	5	..	..	..	7	2	12	27	..	1,971
WASH.	Mar.	..	..	..	..	..	179	..	21	4	2	319	14	..	34	..	3	2	..	..	14	..	5	..	..	..	..	3	2	10	1	629
	3 mo.	..	..	..	..	..	409	..	128	8	8	863	68	..	99	..	16	3	..	1	64	1	13	..	..	..	..	8	10	30	1	1,787
W. VA.	Mar.	..	..	..	..	3	142	2	28	..	..	161	11	..	34	..	..	..	..	3	9	..	1	1	..	..	1	1	2	1	..	403
	3 mo.	..	..	..	..	3	273	6	56	4	2	378	30	..	70	..	..	..	..	3	30	..	3	1	..	..	3	3	4	5	..	882
WIS.	Mar.	..	..	..	..	..	366	18	46	4	13	355	20	..	66	..	3	..	2	1	14	..	..	..	..	7	7	5	5	7	1	962
	3 mo.	..	..	..	1	..	619	44	112	13	25	1,132	58	..	133	..	9	..	3	1	49	..	5	..	..	27	19	11	14	8	9	2,348
WYOM.	Mar.	..	..	..	..	..	31	..	21	1	..	44	1	..	3	..	1	..	..	..	3	..	1	..	..	..	..	..	..	..	..	106
	3 mo.	..	..	..	..	..	47	..	50	1	..	97	7	..	16	..	1	..	..	..	6	..	2	..	..	..	..	..	..	..	..	227
TOTAL Sales by Makes....	Mar.	28	26	15	230	410	16,062	370	2,632	244	262	17,797	1,330	22	2,526	29	752	70	71	47	1,240	26	87	25	21	113	172	210	406	508	49	46,348
TOTAL Sales by Makes....	3 mo.	79	66	24	487	899	32,606	947	7,063	581	655	44,559	3,548	92	6,651	48	1,416	192	152	135	3,002	95	266	37	48	300	418	429	904	1,257	120	108,770

which is compiled by the Robinson's Advertising Service, of Spirngfield; and New Jersey, town and county lists of owners in any section may address any of these three companies.

TRUCK-TERMINAL

Discussion of Freight Classifications Used by Carriers and Rules Governing Rates and Shipments



By G. Lloyd Wilson

Professor of Commerce and Transportation, University of Pennsylvania

FREIGHT tariffs are the catalogs and price lists of carriers. Tariffs publishing the rates of freight applicable between points served by motor truck carriers are not yet in the stage of standardization that railroad freight tariffs have reached as a result of many years of development. Many motor freight carriers publish no tariffs at all, but depend upon rate memoranda and informal compilations of rate data to make and quote rates and to regulate the movement of traffic over their lines.

The regulations of the public utility and public service commissions of many states require motor freight carriers to publish, post and file their tariffs as a prerequisite to operation. A typical state law, that of the Commonwealth of Pennsylvania, provides that it is the duty of every public service company subject to the state law to post and publish tariffs and schedules showing "prices, charges, rates, fares, tolls and other compensation asked, demanded, or received for any service rendered or furnished by the common carrier or public service company." Other state laws have similar provisions.

When tariffs are required by law or provided by the carriers without legal compulsion, they usually contain the following data:

1. The freight classification used in connection with the tariff.
2. A set of exceptions to the classification to govern the movement of traffic.
3. A code of rules governing the tariff.
4. A table of class rates.
5. A list of general, special or miscellaneous class rates.

Several systems of freight classification are used by motor freight carriers in various sections of the United States. The carriers in the State of Washington are required by law to use a system of freight classification prescribed by the state department of public works, the administrative body regulating motor carriers of merchandise and passengers.

A number of carriers along the Pacific Coast use a system of freight classification prepared expressly for motor carriers by Lewis A. Monroe, a motor freight tariff and classification expert, Los Angeles, Cal.

Some motor freight carriers use no classification system at all or use their own systems of classification, crude and incomplete in many cases, although there are examples of carefully worked out class rating systems.

A number of motor freight lines use the same system of classification as the railroad carriers in the territories in which they operate: the Official, Southern or Western Classifications. In many cases the classification systems are modified so as to apply the classifications to the use of the motor carriers.

The line operators using the Central Union Truck Terminal of Indianapolis and the lines members of the Truck Terminal Association of Indianapolis, Inc., use the Official Classification, modified slightly to conform to the needs of motor freight traffic. The first three classes and multiple and fractional classes higher than first class are provided. Freight rated at Rule 25 in the Official Classification for railroad transportation is placed by the motor truck carriers in second class, and Rule 26 freight is rated as third class.

The contrast between the railroad freight classes and those provided by the motor freight carriers' modifications is shown in the box on page 56.

Codes of rules and regulations governing the use of tariffs are usually provided in the motor carriers' tariffs. The following rules of the Truck Terminal Association of Indianapolis are typical of those provided in the motor freight line operators' schedules:

1. The rates shown in the tariff are effective only from and to cities and towns from and to which the carriers maintain regular service. Other points are served at special rates.

FREIGHT TARIFFS

The fifth article of a series on cooperative truck terminals

2. The rates named in the tariff are subject to increase or reduction by amendment of the tariff before the Public Service Commission (of Indiana).
3. Contract agreements must be made by telephone, mail or telegraphic communication with the terminal officer if any departure from the established routes is required. The carriers are not responsible for unconfirmed telephone orders.
4. Special rates may be made upon request to any point within a radius of 500 miles of the terminal.
5. The carriers reserve the right to make special rates on large quantity or truck-load shipments between any points within the radius of regular operation.
6. Perishable property or goods of any character that would not bring the amount of the freight charges due upon them at a forced sale are not accepted for transportation unless the freight charges are prepaid or the payment guaranteed by a responsible person.
7. When a shipment is refused or unclaimed by the consignee the carriers notify the billing agent and freight claim agent of the terminal depot promptly so that an order for the disposition of the goods may be obtained without delay from the shipper.
8. The carriers reserve the right to reject any or all shipments that are not plainly marked with regulation shipping tags or with ink stencil. The package marks must show the name of the shipper, the original point of shipment, the consignee's name, the address of the consignee, and the point of destination.
9. The carriers reserve the right to refuse to accept any goods in shipment which are prohibited for transportation by the carriers' insurance underwriters' policies.
10. If property is offered by the truck line operator to the consignee and not accepted by the consignee, it may be delivered to the truck ter-

(Turn to page 56, please)

FLAT RATE PRICE LIST NUMBER 30

FORD MODEL A

Clutch

1. Adjust pedal clearance $0.60
3. Clutch assembly, remove, disassemble, reassemble and reinstall. Covers inspection only and does not include attachment of friction facing to disk or replacement of clutch pilot bearing.
   Delivery chassis and truck... 10.00
   Dual transmission truck..... 11.50
4. Release bearing, renew. Includes removal and replacement of clutch.
   Delivery chassis and truck... 9.75
   Dual transmission truck 11.25
5. Change clutch plate
   Delivery chassis and truck... 10.00
   Dual transmission truck 11.50
7. Renew pilot bearing, when clutch is out 1.50
8. Clutch assembly overhaul. Includes renewal of plate or disk, release bearing, flywheel driving pins but does not include renewal of clutch shaft.
   Delivery chassis and truck... 11.50
   Dual transmission truck 13.00
9. Clutch and transmission, overhaul both, when engine is out of frame.
   All A and AA models 3.50

Flywheel

10. Tighten flywheel, after clutch is out.
    All A and AA models $0.75
11. Flywheel, remove and replace or renew.
    Delivery chassis and truck ... 11.00
    Dual transmission truck..... 12.50
12. Flywheel, remove and replace, after clutch is out.
    All A and AA models 1.50
13. Ring gear, renew, after flywheel is out.
    All A and AA models 4.00
14. Replace clutch housing
    Delivery chassis and truck... 10.00
    Dual transmission truck 11.50

Transmission

1. Transmission assembly, remove and replace. Does not include any repairs.
   Delivery chassis and truck ..$10.50
   Dual transmission truck 12.00
2. Drain, clean, inspect and refill. Includes removal and replacement of cover and flushing transmission case with kerosene.
   All A and AA models 1.50
3. Overhaul, complete.
   Delivery chassis and truck ... 12.00
   Dual transmission truck 13.50
4. Control assembly only overhaul. Includes operation two.
   All A and AA models 1.75
5. Transmission case only, renew.
   Delivery chassis and truck ... 11.00
   Dual transmission truck 12.50

Universals

1. Replace universal joint.
   Delivery chassis $4.00
   Truck chassis, one joint 4.00
   Truck chassis, both joints 5.00

Rear Axle

Note—See Price List Number 28 in April issue

Springs

1. Clips (U bolt), tighten all.
   Delivery chassis $0.75
   Trucks 1.00
4. Rebush spring and perches.
   Delivery car or truck, front .. 2.00
   Delivery car, rear 2.00
   Truck rear, each 3.25

NOTE

This concludes prices for Ford Model A delivery chassis and trucks. As in previous instalments the operations listed are based upon those in Rapid Flat Rate and Repair Data Book, published by Chilton Class Journal Co. Prices are based upon those in the Ford Repair Schedule.

Chevrolet Six flat rate prices will be given in an early issue.

5. Center bolt, front, renew. Includes removal and replacement of spring if necessary.
   All A and AA models 1.50
6. Center bolt, rear, renew. Includes removal and replacement of spring when necessary.
   Delivery chassis 1.50
7. Spring, front, renew. Does not include transfer of spring cover.
   All A and AA models 2.25
8. Spring, rear, renew. Does not include transfer of spring cover.
   Delivery chassis 3.00
   Truck 3.25
10. Pad rear springs and line up body.
    Delivery chassis 1.50

Torque Tube

3. Replace torque tube assembly.
   Delivery chassis $7.00
   Truck 6.00

Ignition

1. Breaker points, clean and adjust without removing points.
   All A and AA models..... $0.50
2. Breaker points, renew. Includes retiming ignition.
   All A and AA models 1.00
3. Points, reface, retime. Clean spark plugs.
   All A and AA models 1.25
4. Ignition unit, replace.
   All A and AA models 1.25
6. Plugs, clean and adjust all.
   All A and AA models 0.75

Generator-Starter

8. Charging rate, adjust and clean commutator.
   Separate job $0.50
   With other electrical work ....N.C.
9. Replace commutator brushes and clean commutator.
   All A and AA models 1.00
12. Generator, remove and replace, no repairs included.
    All A and AA models 0.75
12a. Generattor, overhaul.
    All A and AA models 0.25
13. Starter, remove and replace, no repairs included.
    All A and AA models 1.50
13a. Starter, overhaul.
    All A and AA models 3.75
15. Replace starter drive.
    All A and AA models 1.50

Electrical

16. Starter switch, renew.
    All A and AA models $0.75
17. Ignition switch, renew.
    All A and AA models 2.00
18. Meter test light circuit for opens, resistance, grounds.
    All A and AA models 1.50
19. Horn, clean, oil and adjust.
    All A and AA models 0.50
19a. Replace horn diaphragm.
    All A and AA models 0.75
20. Rear signal switch, renew.
    All A and AA models 1.00
21. Replace cable between battery and starter switch.
    All A and AA models 0.75
22. Replace ammeter.
    All A and AA models 1.00

Sheet Metal

1. Front fender, renew.
   All A and AA models $2.50
2. Install well fender.
   All A and AA models 3.25
   When necessary to drill frame. 4.00
3. Rear fender, renew.
   Delivery chassis 1.75
5. Running board, renew.
   All A and AA models 2.00
6. Running board and splasher, on same side, renew.
   All A and AA models 2.50
11. Radiator splash shield, renew.
    All A and AA models 0.75

Wheels

1. Wheel, remove and replace, front or rear. Includes changing tire.
   All A and AA models $0.75
3. Align front wheels.
   All A and AA models 0.75
4. Bearings, one front wheel, renew. Includes renewal of grease washers and repacking of bearings.
   All A and AA models 0.75
5. Bearings in both front hubs, clean and repack. Does not include washing brakes.
   All A and AA models 1.50
6. Rear wheel, tighten on shafts.
   All A and AA models 1.00
7. Fit new key in taper.
   Auxiliary chassis 0.75
   Truck chassis 0.60

Bodies

1. Body bolts, tighten all.
   Delivery chassis $1.25
2. Body, open car, remove and replace.
   Passenger car chassis 5.00
3. Body, closed car, remove and replace.
   Passenger car chassis 9.00
4. Door glass, renew. Closed car or cab.
   All A and AA models 1.50
5b. Replace windshield glass.
   All A and AA models 2.50
7. Renew bumpers, one door.
   All A and AA models 0.45
8. Door striker plate, renew.
   All A and AA models 0.75

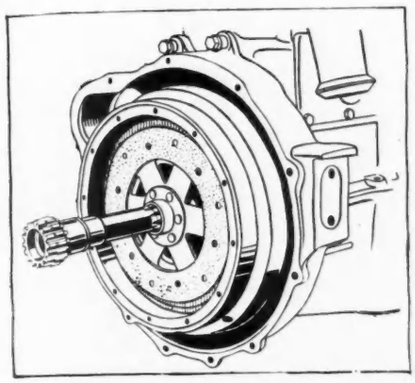
Greasing—Tightening

1. General Tightening. Tighten body hold down bolts, cowl, dash, floor, instrumment board, fenders, running boards, splash and dust shields, bumpers, sills, springs, radiator, tire carrier, rim and wheel bolts and nuts. Adjust door bumpers and front and rear wheel bearings.
   Delivery chassis $3.75
   Truck chassis 4.50
2. Complete Lubrication. Includes drain and renew lubricant in crankcase, transmission and differential. Lubricate all oil and grease cups and pressure fittings. Use oil can on brake clevis pins, doors, spark and throttle controls. Repack front wheels and lubricate steering gear. Water battery.
   Delivery chassis 2.50
   Truck chassis 3.00
3. Lubricate all grease and oil cups and pressure fittings.
   All A and AA models 1.50

SERVICE HINTS

From Shop and Factory

Ford Plate Clutch



Transmission main drive gear used to line up clutch disk

The clutch disk in a Ford plate clutch must be lined up with the clutch pilot bearing when assembling the clutch. A transmission main drive gear may be employed for this purpose. The small end of the shaft enters the pilot bearing while the splines on the shaft passing through the splines on the clutch disk hold the disk in alignment when installing the clutch.

Turning Brake Drums

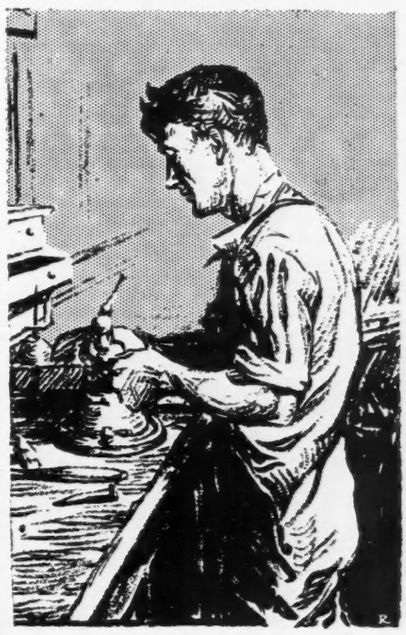
Many mechanics prefer to turn brake drums while attached to the wheels so that any off-center or out-of-roundness which is the result of assembly of drum to wheel may be corrected.

The work may be done on a lathe with the necessary swing, a centering arbor and turning tools being required. A special plate which bolts to the face plate of the lathe may be used in place of a centering arbor in some cases.

The accompanying illustrations furnished by South Bend Lathe Works show brake turning operations on a lathe.

$5

Ideas for Service Hints from shop men are welcome. Tell all about the idea in shop terms and send drawing or photograph. Five dollars will be paid each successful contributor.

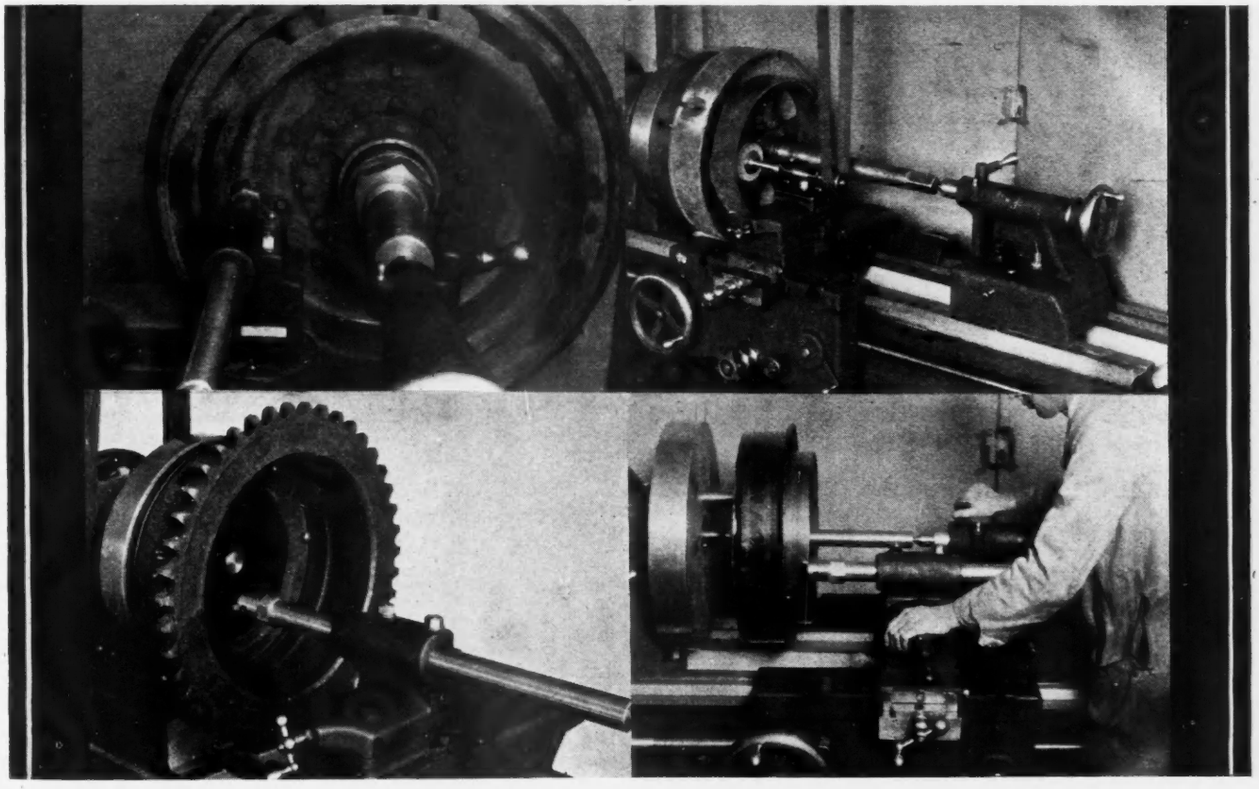


Below, left: A brake drum and wheel mounted in a lathe on a centering arbor. The turning tool permits cutting the full width of the drum without resetting

Bottom, left: Integral brake drum and sprocket fastened to face plate by adapter disk

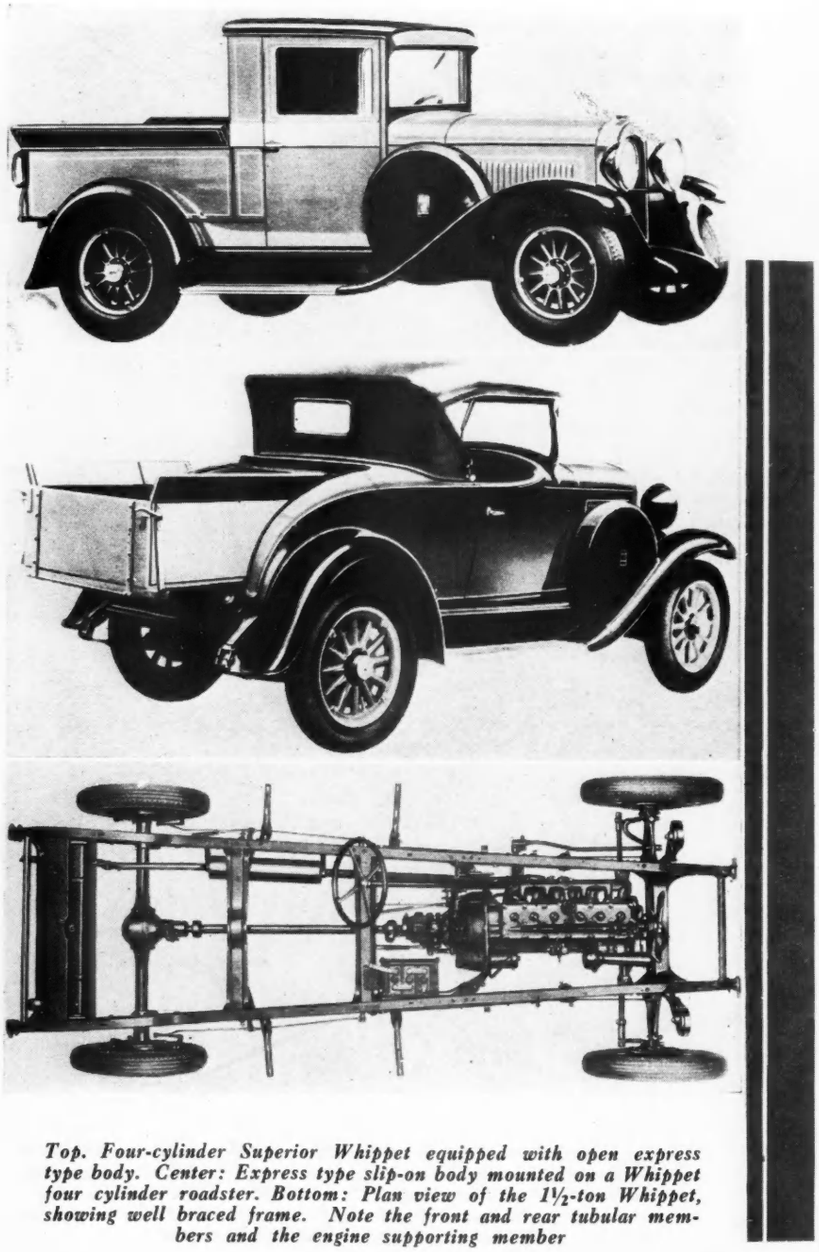
Below, right: Grinding the surface of a brake drum. The grinder is driven by an overhead drum countershaft

Bottom, right: Turning the outside of a brake drum mounted on an arbor



OVERLAND WHIPPETS

Line Includes ½-Ton Four, Priced at $380 for Chassis and 1½-Ton Six Listed at $645



Top. Four-cylinder Superior Whippet equipped with open express type body. Center: Express type slip-on body mounted on a Whippet four cylinder roadster. Bottom: Plan view of the 1½-ton Whippet, showing well braced frame. Note the front and rear tubular members and the engine supporting member

Specification Willys-Overland Whippets

Model	C-101	96-A
Price	$645	$380
Gross weight	7000 lb.	3100 lb.
Chassis weight	2540 lb.	1659 lb.
Wheelbase	131 in.	103¼ in.
Tires	30 x 5 in.	28x4.75 B.
Engine, size	6-3⅛ x 3⅞ in.	4-3½x4¼ in.
displacement	178.3 cu. in.	145.7 cu. in.
hp.	50 @ 3000 r.p.m.	40 @ 3200 r.p.m.
crankshaft	7-bearing	3-bearing
pistons	Invar-strut	Invar-strut
camshaft drive	chain	chain
Carburetor, make	Tillotson	Tillotson
feed	vacuum	vacuum
Gasoline tank	rear	rear
capacity	11-gal.	8-gal.
Ignition, make	AutoLite	AutoLite
type	battery	battery
Starter & Generator	AutoLite	AutoLite
Radiator, type	cellular	cellular
Cooling system, temperature control	thermostat	.....
capacity	3⅞ gal.	2⅞ gal.
Clutch, make	.....	Borg & Beck
type	single plate	single plate
size	10 in.	.....
Transmission, mounting	unit	unit
speeds	4	3
Universals, make	Mech. Mach.	Mech. Mach.
number	2	2
Rear Axle, type	semi-floating	semi-floating
drive	bevel	bevel
ratio	5.44 to 1	4.55 to 1
tread	59 in.	.....
Torque & Drive	springs	springs
Steering gear, type	worm & nut	worm & nut
Service Brake, rear	mech. external	mech. external
Service Brake, front	3-shoe Bendix	2-shoe Bendix
size, rear	14 in.	.....
size, front	11⅞ in.	.....
Hand brake, location	rear wheels	rear wheels
operation	internal	internal
size	13⅜ in.	.....
Spring, type	semi-elliptic	semi-elliptic
size and number of leaves, front	36 x 1¾ in.	35¼x1¾ in. —6
rear	45 x 2½ in.	49½x1¾ in. —7
Frame	6x2¾x5/32 in.	4¼x1¾x9/64
Wheels	Malleable	12-spoke wood

LEADING off a completely new truck line, entirely redesigned to meet modern transportation needs, Willys-Overland Co. announces its line of Whippet-engined commercial cars ranging from ½ to 1½ tons in capacity. The price of the Whippet four chassis is $380, while that of 1½-ton six is $645.

The latter is featured by a wheelbase of 131 in., a four-speed transmission, four-wheel brakes, and a low frame height, at rear, of 24⅝ in. The "Finger-tip control" featured on the Willys-Overland line of passenger cars is also found on the commercial units.

The unit powerplant of the 1½-ton chassis is composed of the Whippet six-cylinder engine with its seven-bearing crankshaft, force feed lubrication, and Invar-strut aluminum alloy pistons, a single plate 10-in. clutch and the four-

MAKE TRUCK DEBUT

Panel body on the six-cylinder Whippet 7000 lb. chassis. Frame height when loaded is 24⅝ in.

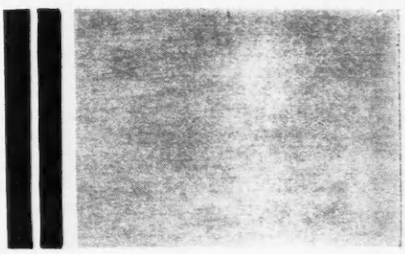
speed transmission already mentioned. With a 3⅛ in. bore and 3⅞ in. stroke, equivalent to a piston displacement of 178.3 cu. in., the engine develops a maximum of 50 hp. at 3000 r.p.m., as compared to an N.A.C.C. rating 23.4 hp.

Ball bearings support the 10-splined transmission main shaft, with a Hyatt roller pilot at the front end. Ratios are given in the accompanying table, and indicate an overall low speed ratio of 33.5 to 1. Mechanics Machine universal joints are used in the two-joint propeller shaft. The rear axle is featured by heavy spiral gear reduction with straddle mounted pinion, and the differential mounted on Timken bearings, double Timkens also being used at the wheel ends. The rear tread of 59 in. allows for ample body width.

Timken roller bearings also are used in the front wheels, as well as for the steering spindle thrust. Springs are of chrome vanadium steel, with the rear springs designed for Hotchkiss drive. Bendix front wheel brakes are fitted on both models, differing only in that the light model has two shoes whereas the larger has three. Rear wheel service brakes are mechanically operated externals. The hand brake acts internally on the same drums.

Six cross members are found in the frame, both front and rear cross members being tubular, and ample gusseting for the channel members. The 11-gal. tank is mounted at the rear of the frame, back of the rear axle kick-up.

Standard equipment includes air cleaner, gasoline filter, windshield wiper, rear view mirror, rear traffic signal, and electro-lock.



Bodies available include a panel express, with two rear doors, canopy express provided with side curtains, screen body with locking upper screen and gate, stake, and open express.

Similar body types are available on the four-cylinder commercial line, deliveries of which have been made for some time past, without formal announcement from the company.

AFTER HOURS

Airports

While the rest of the public looks up to the heavens in admiration of the airplane industry's progress, the truck industry by keeping its eyes on the ground can develop a new truck market while contributing to the advancement of aviation. Where the truck fits into the field of air transportation is in airports. It is here that aviation needs the help of the truck if it is to attain the standards of efficiency the American public demands of its transportation agencies.

Because of its comparative newness and rapid development very few men in the truck industry are familiar with the extent and needs of the airport market. Convinced of this, and feeling it a duty to supply information regarding this new truck market, COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE conducted a thorough investigation, the results of which are published in this issue.

Truck dealers and manufacturers will find the survey helpful to them in realizing the potentialities of the market and in furnishing them with valuable sales material.

Milk

Millions of New Yorkers today are forced to depend upon long truck hauls for 80 per cent of their daily milk and cream supply, according to findings in a Columbia graduate research project for the Port of New York Authority. This method of transportation is characterized by the investigation as "inconvenient and unsatisfactory." The investigation also finds that open warfare and jealousy between different railroad lines transporting milk into New York has caused extremely inadequate milk transportation in the Boroughs of Brooklyn and Queens and undoubtedly is keeping up the price of milk all over the city.

We don't know what the price of milk is in New York, but we do know that this Columbia investigation isn't worth a pint of milk if for no other reason than that with bald inaccuracy it labels truck hauling of milk as "inconvenient and unsatisfactory."

Our reading of daily events has led us to the belief that whenever two concerns develop a case of jealousy that breaks out in a rash of open warfare, the result is usually beneficial to the public, either in the form of price cuts or improved service or both. It would appear to us, therefore, that if the New York, New Haven & Hartford and the New York Central started pulling each other's hair, the spectacle ought, if anything, to attract the milk industry.

The truth is that the milk business has gone to trucks in New York not because of railroad brawling but because the truck has proved itself a more economical means of transportation, convenient because of its flexibility and utterly satisfactory because of both its economy and convenience. Permit us to quote from a survey of eight cities by the U. S. Department of Agriculture:

"Where railroad rates were compared with motor-truck rates it was usually found that the motor-truck rates were the same as the railroad rates or somewhat higher. Even though the truck rates are higher the tendency is to ship by motor trucks where the distances are not too great for trucks to operate. Use of the motor truck in shipping milk eliminates the city terminal transportation costs which have to be met where shipments are made by railroad. The milk producer is also saved the cost and time which is involved where he is required to take his milk to the rural railroad stations if he can ship directly from his farm by motor truck."

Detroit, Milwaukee, Cincinnati, Indianapolis, St. Paul and Minneapolis are supplied with better than 90 per cent of their milk by motor trucks. Such overwhelming acceptance cannot be otherwise explained than that the truck is filling with convenience and satisfaction the task assigned it.

The Columbia milk survey to us is nothing more than curds and whey thrown in the face of facts.

Tips

Here's a letter from a truck salesman we just can't keep out of print:

"By just reading my morning newspaper, and at the same time keeping business in mind, I have averaged two more sales a month than I ordinarily have been doing. To be exact, I made 22 extra sales during the past year as the result of tips gathered from the newspaper.

"I came across the idea, or rather the idea came to me, one day while I was in the office talking to a customer. The sales manager was answering the phone.

"'Have I a used truck?' I heard him say. 'Sure. Come on over and look at them.' . . . . . 'Were you insured?' . . . . . 'That's good! You say 50 trucks burnt up?' . . . . . 'All right. Come down and look them over.'

"That was enough for me. Almost unconsciously I said to myself, 'Huh, there's 50 prospects.' I didn't realize how true that was until I had thought it over. I picked up the newspaper and turned to the account of the fire. I found that it was a public garage that had been gutted. I noted the address.

"The following morning I visited the garage. The garage owner gave me a list of the truck owners who had suffered losses. There were a few of them with small trucks and with no need of getting anything larger, so I immediately crossed these off my list.

"I then got in touch with the remainder by telephone. This cut my list down to 13 good prospects. By interviewing and keeping after these I managed to sell three new and two used trucks. Not such bad returns on reading a half-column news item.

"Since then I have studied the newspaper and it has paid big dividends. Not only fires, but also accounts of bad accidents that leave a truck a total wreck; accounts of stolen trucks; notices of the opening of new businesses that will probably need a truck, and a number of other types of items will set you on the track of a possible purchaser. Leads picked up in this way are generally clean sales.

"I was surprised when I questioned other truck salesmen and they told me that they had not discovered this fount of prospects!"

We have only two observations to make: (1) That it isn't really surprising that the idea isn't shared by all salesmen, because the overlooking of selling fundamentals is a common fault, and (2) that the afternoon newspaper should keep the morning sheet company on the salesman's reading list.

—G.T.H.

Outstanding Features of the Chevrolet Six Cylinder Trucks

for Economical Transportation

CHEVROLET

1 SIX-CYLINDER PERFORMANCE

Powered by a rugged six-cylinder valve-in-head engine—Chevrolet trucks provide remarkable smoothness, flexibility and acceleration—even when hauling a capacity load.

2 AMPLE CAPACITY

A longer, stronger, heavier frame makes possible the mounting of any body type, with loading space up to 9 feet in length and a gross load limit of 7000 lbs.

3 OUTSTANDING ECONOMY

Improved carburetion and a new high-compression, non-detonating cylinder head provide gasoline economy which is actually as great as that of a four-cylinder truck.

4 DAY-AFTER-DAY DEPENDABILITY

Numerous notable mechanical advancements, combined with extraordinary staunchness of construction, make the new Chevrolet six-cylinder trucks unusually dependable.

5 SMART APPEARANCE

A wide array of body types not only meets every haulage and delivery requirement—but provides unusually smart appearance and the utmost convenience.

Fleet Users know—

—that the swift pace of today's traffic conditions demands the increased power, speed, flexibility and acceleration of a six-cylinder engine. And because the new Chevrolet trucks provide this six-cylinder performance *with the economy of the four*, their popularity is growing by leaps and bounds in every section of the country.

Visit your Chevrolet dealer today and see how completely the new Chevrolet trucks meet the requirements of *your* business. In performance, in convenience and in handling ease—they will prove a revelation. And they are as economical, both to own and to operate, as any truck you could buy.

CHEVROLET MOTOR COMPANY, DETROIT, MICH.
Division of General Motors Corporation

The Sedan Delivery.. $595 The Light Delivery Chassis $400 The 1½ Ton Chassis..... $545 The 1½ Ton Chassis with Cab $650

All prices f. o. b. factory, Flint, Michigan

- A SIX IN THE PRICE RANGE OF THE FOUR

REPUBLIC HAS NEW

Low Frame Height Achieved in Fleetmaster by Special Construction of Frame and by Bringing Spring Bolts Above Side Rails

ANNOUNCEMENT of a complete new line of trucks, under development for some time past at the plant of the Republic Motor Truck Co., comes at a particularly opportune time. With the recently consummated merger of this company with the commercial truck division of the American LaFrance and Foamite Corp., providing increased capital, larger manufacturing facilities expanding engineering and service staffs, and larger dealer organization, manufacturing and merchandising of these new trucks, which will form an important part of the LaFrance-Republic Corp., should receive an added impetus.

The new line of Republic trucks consists basically of five models, on a straight rating

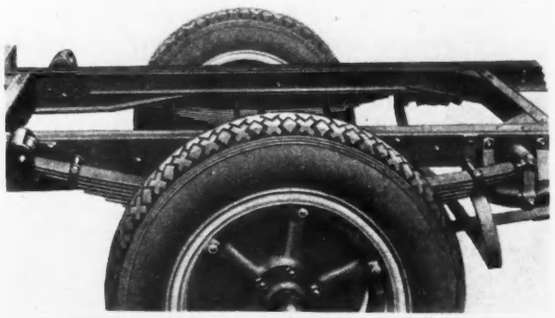
Specifications New Republic Line

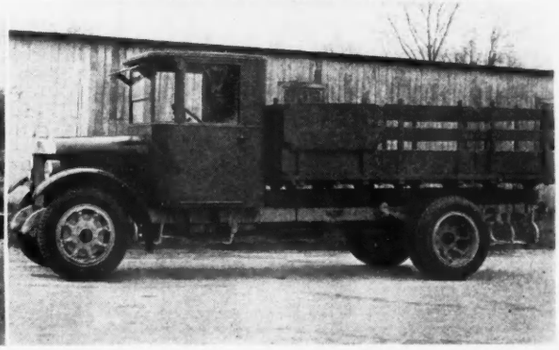
Model	C-1	F-1	H-1	L-1	M-1
Straight Rating	7,000	12,000	15,000	18,000	20,000
Chassis Weighi	3,300	4,600	5,700	6,400	6,600
Engine	Lycoming	Lycoming	Lycoming	Lycoming	Waukesha.
Size	6-3¼x4½	6-3¼x4½	6-3⅞x5	6-3⅞x5	6-4x4¾
Displacement	224 cu. in.	224 cu. in.	354 cu. in.	354 cu. in.	358 cu. in.
Actual hp.	55 @ 2,500	55 @ 2500	75 @ 2400	75 @ 2400	75 @ 2250
Valves	L-head	L-head	L-head	L-head	L-head
Governor	none	none	none	none	fly-ball
Carburetor	Zenith	Zenith	Zenith	Zenith	Zenith
feed	vacuum	vacuum	vacuum	vacuum	vacuum
Electrical	AutoLite	AutoLite	AutoLite	AutoLite	AutoLite
Clutch, make	Brown-Lipe	Fuller	Fuller	Fuller	Brown-Lipe
type	multiple disk	multiple disk	multiple disk	multiple disk	multiple disk
Transmission	Brown-Lipe	Fuller	Fuller	Fuller	Brown-Lipe
speeds	4	4	4	4	5
location	unit	unit	unit	unit	unit
Universals	2-metal	3-metal	3-metal	3-metal	3-metal
Rear Axle	Clark	Eaton	Eaton	Eaton	Eaton
drive	bevel	bevel	bevel	dbl. reduction	dbl. reduction
type	½ float	½ float	full float	full float	full float
ratio	5.66 to 1	6.625 to 1	5.5 to 1	7.5 to 1	8.85 to 1
options	....	....	6.875 to 1	8.85 to 1	....
overall ratio low gear	28.3 to 1	44 to 1	35.75 to 1	48.75 to 1	53 to 1
Service Brakes	4-wheel	4-wheel	4-wheel	4-wheel	drive shaft
type	hydraulic	mechanical	mechanical	mechanical	mechanical
Hand Brake	drive shaft	drive shaft	drive shaft	drive shaft	rear wheels
Front Axle	Clark	Eaton	Eaton	Eaton	Shuler
Steering	Ross	Hannum	Hannum	Hannum	Hannum
Springs					
front	38x2	39x2½	39x2½	39x2½	39x2½
rear	52½x2½	56x3	56x3	56x3	54x3½
helper	none	none	none	none	39½x3½
Tires					
front	32x6.00	32x6	34x7	36x8	36x8
rear	32x6	32x6	34x7	36x8	36x8
number	single	dual	dual	dual	dual
Wheelbase	144 in.	143⅝ 155⅜ 168¼	150¾ 162¾ 179¼	179¼ 200¼	171 191¼ 160⅜
Tread, front	58 11/16	57	56¼	62	63
rear	57	61¼	62	67	67
Body, length	9 ft.	9-11-12	10-12-14	14-16	12-14-10½
Frame width	32⅛	32	32	32 1/16	32
Body width allowance	....	42½	42½	....	....
Loaded frame height	....	26¼	27½	31	32¾

Right: Rear of the Fleetmaster frame showing how the channel section has been reduced in depth and reinforced to permit lower loading height. The low frame mounting in the springs and the exceptionally rigid rear shackle bracket are characteristically Republic

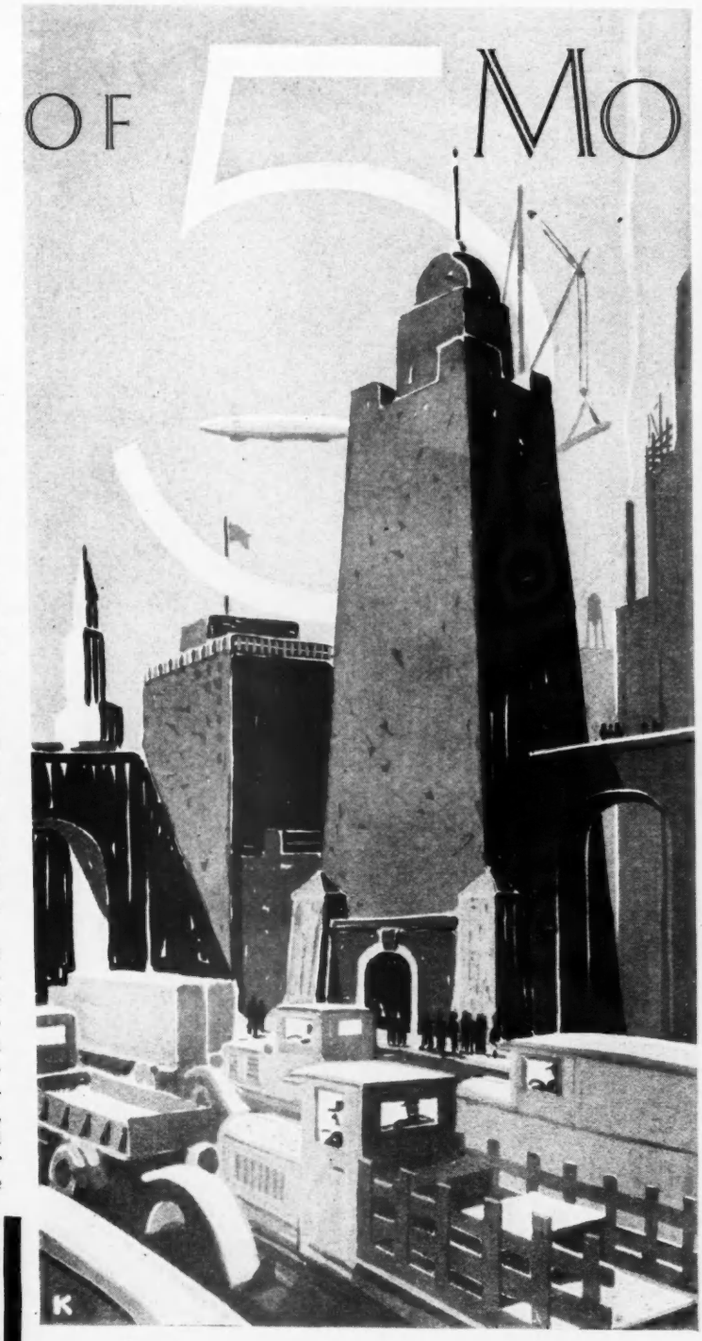
Lower left: The largest LaFrance-Republic truck, the M-1, has a straight rating of 20,000 lb. A helper spring is provided above the rear springs

Lower right: LaFrance-Republic model F-1 has a straight rating of 12,000 lb. It is fitted with four-wheel brakes, Bendix three-shoe at the front, four-speed transmission, and 55 hp. six-cylinder engine





LINE OF MODELS



basis, the latter being one of the new developments associated with the introduction of the new line. Ranging from the "Fleetmaster," 7000 lb. straight rating leader of the line, to the 20,000 lb. Model M-1, the five models will replace a considerably larger number of models.

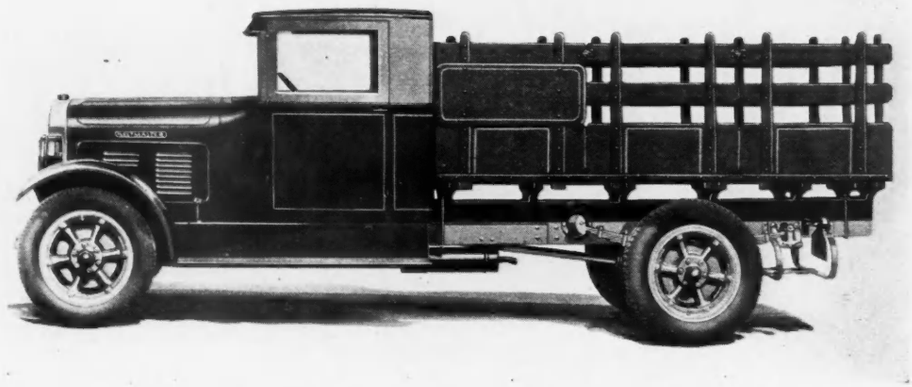
The new trucks have been designed throughout specifically for the straight rating for which they are to be sold, with ample tire sizes, four or more speed transmissions, all with provision for power take-off, four-wheel brakes on all except the largest model, six-cylinder engines throughout, optional wheelbases on all except the Fleetmaster, etc.

Taking the new models individually, the Fleetmaster is probably the most outstanding development of the new line. With its 55 hp. engine, four-speed transmission, four-wheel hydraulic brakes, 32 x 6 in. tires, cam and lever steering, and other mechanical features, are combined a new cab, representing a considerable advance in attention to driver comfort, and more pleasing appearance. Road speeds of upward of 50 m. p. h. should not be difficult of attainment.

New developments in truck design are also found in this model. The gasoline tank, instead of being located under the seat, is mounted at the right of the frame just back of the cab, where it is not only more accessible for refilling, but also removes the limitations commonly encountered in cab design. As a result the seat in the new cab is lower, with inclined cushions and back rest, and lowered steering gear, more closely approximating passenger - car design.

A second feature of importance is the method used in obtaining an exceptionally low loading height. To do this, the section of the frame side channel, from forward of the rear axle to the rear end of the frame, is reduced in depth, the strength due to reduction of this section being restored by a channel bracing, shown in Fig. 2. Together with this goes the Republic type of

(Turn to page 60, please)



This new 7000 lb. straight rating "Fleetmaster," priced at $1,295 for the chassis, is the leader of the new LaFrance-Republic line of trucks

REO CHANGES ALTER

Adoption in Gold Crown Engines of L-Head Type Construction, Four-Point Suspension and Chain Drive Front End Necessitates Revised Methods

Maintenance Data

Breaker point gap.....020 in.
Spark plug gap .....030 in.

Ignition timing, breaker points should open 1¼ in. before top dead center with spark at full advance. UDC is marked on flywheel. Generator charging rate is controlled by third brush and thermostat. Generator should cut in at 8 to 10 m.p.h. and reach maximum rate at 25 to 26 m.p.h. Rate should not exceed 20 amps.

Pistons are numbered, No. 1 being next to radiator.

When assembling connecting rods in engine put oil holes toward camshaft.

Valve tappet clearance:

Inlet	F	.004 in.
	G	.007 in.
Exhaust	F	.006 in.
	G	.007 in.

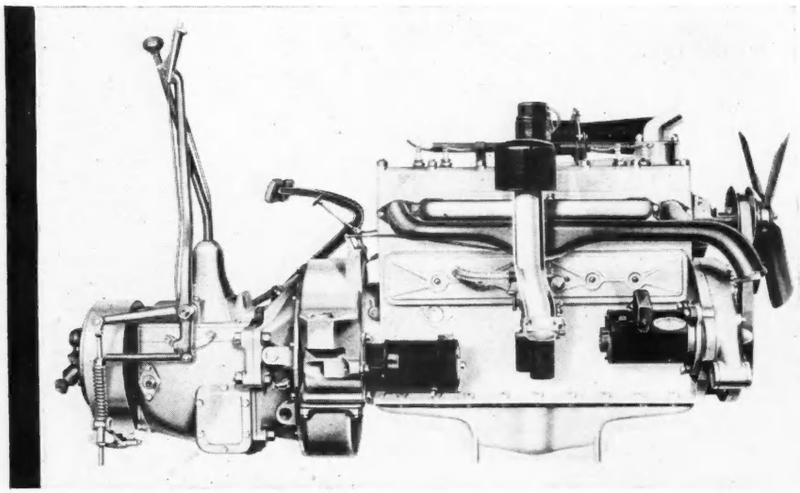
Numbering from radiator exhaust valves are, 1, 4, 5, 8, 9, and 12.

Oil specification:

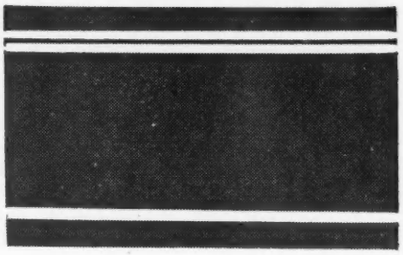
Summer use. Viscosity at
100 degrees Fahr. 350 seconds, maximum
212 degrees Fahr. 50-55 seconds

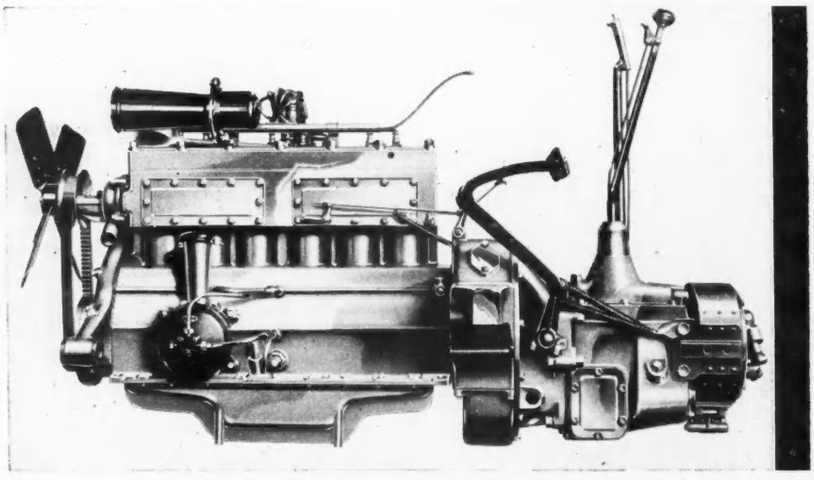
Winter use. Viscosity at
100 degrees Fahr. 350 seconds maximum
212 degrees Fahr. 50-55 seconds
Pour test, zero Fahr.

Transmission and rear axle require a strictly fluid petroleum gear oil, sometimes sold as 600 oil.



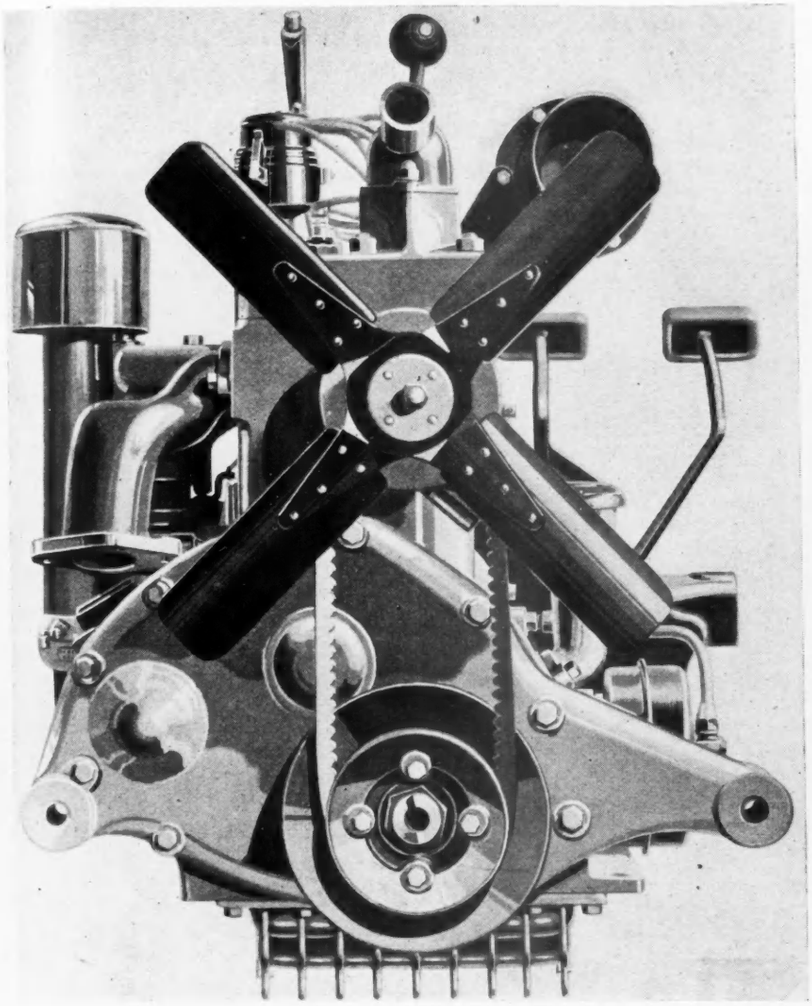
Above—Right side of Reo Gold Crown engine. The thermostat can be easily removed for testing. Place it in water which can be brought to desired temperature. The thermostat should start to open at 145 degrees and should be fully open at 165 degrees. Front drive chain is adjusted by loosening generator and moving it away from cylinder block. Make adjustment at end of first 1000 miles and every 5000 miles thereafter. The chain should not be tight enough to hum. Do not make adjustment with engine running. When limit of adjustment is reached the chain may be shortened by taking out a hunting link. To repack water pump take out Zerk fitting on shaft and unscrew packing nut. Packing consists of inner and outer shaped packing rings and three square packing rings





Right—Left side of engine. The oil filter is in series with the pump. The filter itself should be changed every 10,000 miles to obtain the best results. The oil pressure regulator is at the center of the crankcase below the oil pipe. Turning the adjusting screw clockwise increases the pressure. Pressure should be about 30 at 45 m.p.h. Two large water jacket plates on the side of the block may be removed for cleaning the jackets

SERVICE PROCEDURE



Front view of engine. Rubber spools are used in the two front engine supports. The only attention necessary to the vibration damper is an occasional check to see that the large plates will move a short distance when pressed together. If they are stuck the damper must be removed, disassembled and cleaned. The fan belt, which also drives the water pump, is adjusted by turning outer flange of upper pulley. Loosen set screw and turn flange clockwise to tighten the belt. Do not adjust the belt too tight. It is a V-belt which will drive without much tension

THE Gold Crown engine used in the F and G series Reo trucks embodies features of construction which affect maintenance procedure. This engine has cylinder dimensions of 3⅜ by 5 in. and is of the L-head type with four-point suspension. Front supports are insulated with rubber spools placed lengthwise.

Both main and connecting rods are of the non-adjustable shimless interchangeable type. Pistons are of aluminum alloy equipped with three compression and one oil control ring. Piston pins are clamped in the end of the connecting rods and work in the piston. Piston and connecting rod assemblies are removed from below.

A vibration damper is placed on the front end of the crankshaft, to the rear of the fan drive pulley. Fan and water pump are combined in one unit, driven by a V-belt which is adjusted by varying width of groove of the fan pulley. Cooling water temperature is controlled by a thermostat in the water outlet.

Front end drive is by 1½ in. silent chain which is adjusted by moving the generator.

Chrome nickel alloy iron cylinder blocks are incorporated in the Gold Crown engines. This alloy is used to reduce wear of cylinders and valve seats and there should be less need of valve grinding and less valve seat wear.

Lubrication system is of force feed type with pump located at lowest point of the oil pan. Deep ribs are cast in the oil pan to assist in cooling the oil and the oil also is passed through a filter on the left side of the engine. The crankcase is ventilated by a flexible tubing connecting the primary air intake of the carburetor with the rear valve chamber cover.

The clutch should be adjusted when wear of facings brings the clutch pedal arm within a half-inch of the under side of the toe-board. Adjustment is made by turning the notched adjusting ring clockwise to tighten. Loosen the screw in the adjusting ring lock and turn lock out of the way. Release clutch and turn adjusting ring. Six notches will be sufficient for ordinary adjustment. After the adjustment has been made lock adjusting ring in position.

When properly adjusted the clutch should stall the engine in high with the emergency brake set.

4-Wheel Drive Unit for Ford Trucks

Dual Duty Axle May be Installed With Few Changes to Chassis

ANNOUNCEMENT is made by the Dual Duty Co., Alma, Mich., of the introduction of a four-wheel drive unit for Ford trucks, converting these into six-wheel units, particularly adapted for dump body and tractor truck work. There is no supplementary frame, the rear axle of the unit is the standard Ford axle and the forward axle is of the dead type, driven by chain from the Ford rear wheels. Except for the addition of five leaves there is no change in the springs, which are mounted in the original position on the Ford frame.

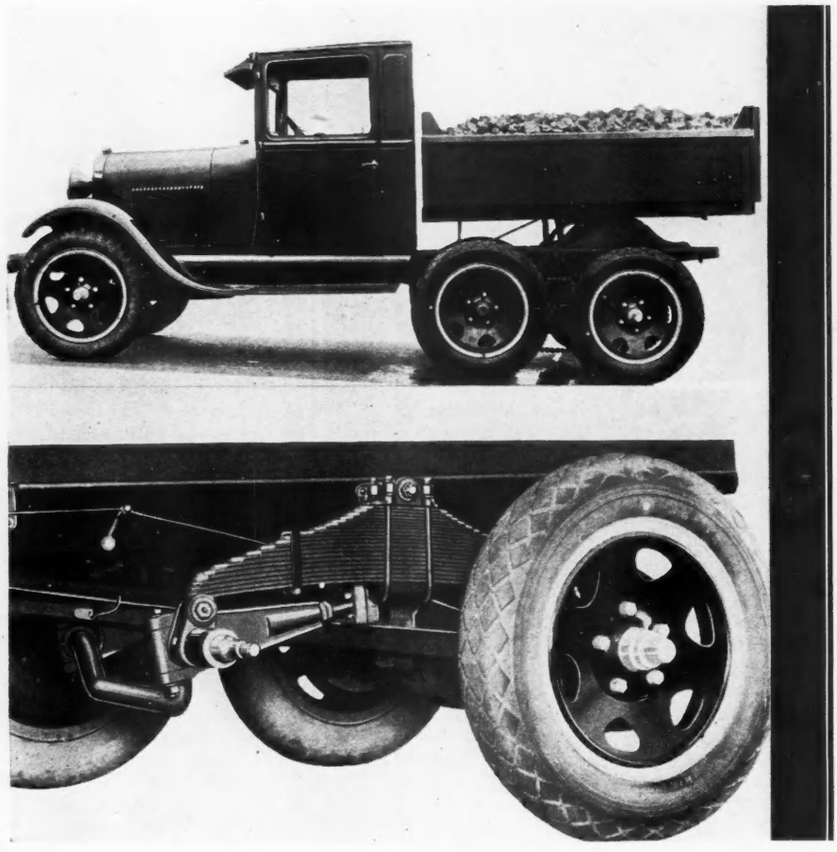
The only change in the Ford or rear axle of the unit is the mounting of a large diameter chain sprocket on the inside of the brake drum face. A similar sprocket is attached to the wheels on the forward axle, the two axles being rather close coupled to keep down the chain length.

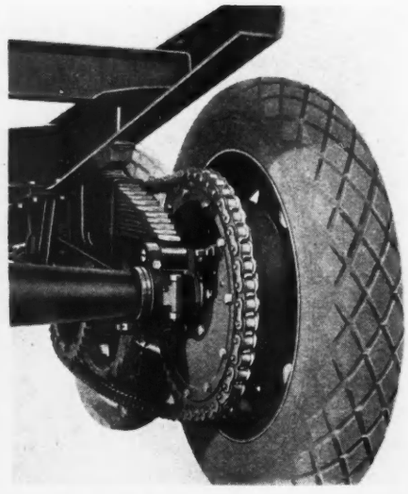
The forward axle is attached to the frame by means of the front spring shackles, which are attached to this unit rather than to the frame as in the Ford construction. The radius rods are attached to the front axle in castings by large bolts and to the frame in brackets with two-inch diameter ball joints. They are adjustable for length to permit of wheel alignment.

Timken bearings are used in the front wheel bearings. Spindles are nickel steel, heat-treated. The unit axle is shipped completely assembled ready for attachment.

Specifications:

Spindles, 22½ in. long, 2¼ in. in diam.
Axle shaft or beam.....2 in. diam.
Inner bearing.....Timken 529-522
Outer bearing.....Timken 3193-3120
Spring pins.....1 inch heat treated
Gear ratio....standard Ford reduction





Above: Close-up rear view of Dual Duty unit showing the chain drive to the front axle wheels of the unit, and frame brackets for mounting of radius rod ball joint brackets

Above, left: Ford dump truck with Dual Duty chain drive four-wheel unit installed. The rear axle is in same location as in the regulation Ford AA unit

Left: Close-up of the Dual Duty four-wheel drive unit with one wheel and chain removed, showing the dead axle, radius rod mounting and the larger number of leaves in the Ford spring, now shackled to the front axle rather than frame.

INDIANA ROAD BUILDER HAS 5 SPEEDS

Model 627AW, Rated at 20,000 Lb. Gross Weight, Powered by 6-Cylinder Valve-in-head Engine

A NEW model having a gross weight rating of 20,000 lb. is the latest offering of the Indiana Truck Corp., Marion, Ind. This chassis, designated as the Road Builder Model 627 AW, is powered by a six-cylinder, 4 x 5 in. valve-in-head engine and with its unit-mounted Brown-Lipe 51 transmission provides five speeds forward and two reverse. The hand-operated propeller shaft brake is a Tru Stop disk, made by the American Cable Co., Inc. Standard reduction in low is 7.41 to 1 and in high, direct. An optional ratio is available providing 5.96 to 1 in low, direct in fourth and over-drive in fifth. Additional chassis specifications are furnished in the accompanying table.

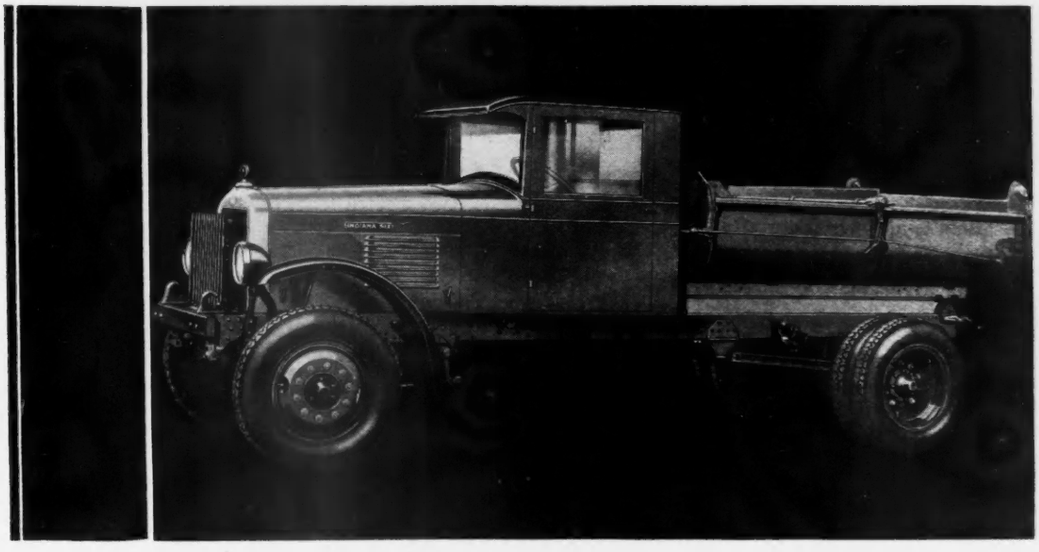
Standard equipment includes Boyce Moto-Meter, 2-man seat, bumper, radiator guard, air cleaner, oil gage, oil filter, hand horn, tow hooks front and rear, rear vision mirror, extra wheel, etc. Electric lighting and starting equipment is furnished as extra equipment.

The cab, which is furnished as extra equipment, is of the de luxe type and is Tors-Elim 3-point mounted. It has full length doors with crank-operated sliding windows, one-piece windshield of the full ventilating type and automatic windshield wiper. The body, also furnished extra, is of the straight side, round bottom type, with double acting tail gate and center partition. Capacity is 81 cu. ft.; width 72 in.; standard length, 102 in.; minimum body length, 96 in.; maximum, 108 in. Hoist is of the underbody type.

Specifications Indiana Model 627 AW

Model	627 AW
Vehicle gross weight	20,000
Chassis weight	7200
Wheelbase	156¼ in.
Tires, standard	34 x 7
optional, extra	36 x 8
Engine, make	Wis. H
size	6-4 x 5
displacement	377 cu. in.
type	valve-in-head
hp. at 2000 r.p.m.	72
Carburetor	Stromberg
feed	vacuum
Gasoline tank, location	under seat
capacity	20 gal.
Ignition, make	Eisemann
type	magneto
Starter	Auto-Lite
Generator	Auto-Lite
Governor	K-P
Radiator, make	Long
	fin and tube
Clutch, make	Brown-Lipe
type	multiple disk
Transmission, make and model	Brown-Lipe 51
speeds	5
mounted	unit
Propeller shaft	2 pieces
Universals, make	Spicer
type	metal
Rear axle, make	Wis. 69311
final drive	double reduction
type	full floating
Torque	springs
Drive	radius rods
Steering gear	Ross
type	cam and lever
Service brakes	2-wheel internal vacuum booster
size	18 x 4 in.
Hand brake	Tru-Stop disk
location	propeller shaft
size	14 in.
Spring size number of leaves	
front	40 x 2¼ in.—12
rear	50 x 3 in.—15
Frame, material	pressed steel
depth, width, thickness	7 x 3 x 5/16 in.
width of frame	33 in.
Wheels, make	Budd
type	disk steel
Length, back of seat	8 ft. 4 in.
Length, seat to center of rear axle	5 ft. 6 in.

Indiana Model 627AW Road Builder equipped with de luxe cab and dump body. Note bumper, tow hooks, radiator guard and disk brake



TRUCK COUNSELOR

(Continued from page 23)

transportation problem than does the manager, as a rule. His survey has been complete. Possibly he gets out a map of the territory, and the two trace out the route or routes covered.

"Why don't you make this town and this territory? Should be lots of good business there," Johnson suggested.

"Surest thing you know, but the days aren't long enough unless we put on another unit, and the volume wouldn't be worth the additional investment." The manager thinks he has closed that issue.

"With the 1-ton unit we had out yesterday, we got back two hours earlier than usual. A man could increase his territory considerably in two hours."

"That's true enough, but sometimes the 1-ton unit is too small, so we have to use a bigger truck, which is slower."

"How often does your load exceed the ton capacity?"

"Oh, two or three times a month, I guess."

Johnson doesn't have to figure long on this problem. "You could afford to keep one of your big units just for such occasions, or hire out this extra load. Put on faster equipment and cover more territory with the same number of drivers."

The two figure out the potential volume of business in the additional territory, and weigh this against the cost of contract hauling for peak loads, or keeping reserve equipment for this purpose. It finally boils down to a simple problem in arithmetic. The manager hadn't thought of that. Good idea. Johnson gets a nice order for faster equipment, and perhaps not a word has been said about brakes, bearings, axles, and the other controversial topics usually fed to the fleet operator.

Johnson mentioned an actual case of this kind. He heard that a steel company proposed buying a 5-ton unit, and it didn't please him, for the Reo isn't built in this size. However, he went out to the firm, and learned that they were entirely satisfied with the Reos already included in the fleet, but occasionally there were 7, 8 or 9-ton loads to be hauled to Bellingham, a distance of about 80 miles.

"How often do you make these trips?" Johnson inquired. The manager didn't know, exactly. He checked up and learned that in the last 12 months there were only four such load requirements.

"Why not have this excess hauled by a trucking company? The difference in price between a 5-ton unit that you propose buying and my 3-ton job will pay for a lot of contract work. Your 5-ton outfit will average only about 12 to 15 m.p.h., while our 3-ton will ramble right along at from 20 to 30 miles."

It didn't take more argument. The steel company bought a 3-ton Reo, for obviously the smaller unit was the best for the purpose. The point is, however, the fleet operator hadn't given this phase a single thought. He only remembered the rare occasions when the 3-ton units were too small.

The time element of the transportation problem is of major importance so far as most operators are concerned, according to Johnson. He recalled a company hauling freight from Bellingham to Seattle, making one trip in two days with a 3-ton unit. One day was spent going from Bellingham to Seattle, with 3 hours for pickup. The truck went back the following day. This unit was making from 20 to 25 m.p.h. Johnson suggested a new Reo job that would average from 30 to 40 m.p.h. Here are the facts that he presented in this case:

1. The entire round trip could be made in one day, by alternating drivers every other day. The two drivers would thus spend every other day working in the Bellingham plant, so no time would be lost.

2. This means that one truck would do the work of two, and thus save the investment in another unit.

3. It would save the wages of one man and hotel bills—over $200 per month.

4. It would save insurance, license—another $200.

Conservatively, a faster truck would save about $2,000 per year. Did he fall for these arguments? Sure as life, for he couldn't dodge them, despite the fact that he had never considered these figures, before Johnson analyzed them. Mechanical specifications didn't figure at all in this sale.

"I never mention specifications unless I am asked to," Johnson explained, "and then I go over my equipment from stem to stern, with figures and diagrams of other makes to use for comparative purposes."

Delivery routes, such as the milk route, should be the subject of intensive surveys by the transportation counselor. Johnson recalled a milk delivery fleet that he revamped. This fleet consisted of four 1½-ton solid-tire units that averaged about 10 m.p.h. He put on two Reos of the same capacity, but faster; made two routes out of the three original routes, and thus saved the wages of one man. One of the old, solid-tire units was retained for a short haul with big loads. Briefly, this change saved the operator the trade-in value of two trucks, plus insurance, license and driver's wages of one truck, besides the smaller maintenance of three units instead of four.

Such sales methods make it easy to sell trucks, but many is the morning that Johnson puts on a pair of overalls at 4 a.m., makes a trip with the milkman to get the low-down on an operator's transportation problem, find the cost leaks, and suggest remedies.

"There was a time," says Johnson, "when the truck salesman sold the prospect a truck chassis, and it was up to him to fit the body to it. Now we sell a prospect, *first* a suitable body for his work, and *then* get a chassis that will fit the body. Not long ago I found a truck operator hauling cattle on a short wheelbase 1-ton job. He had been compelled to change the frame length, and still the big overhang of the body had a tendency to lift the front end of the truck off the ground. Furthermore, he had put oversize tires on the rear, used overload axles, and still he was forever having trouble.

"This instance just illustrates that although high pressure salesmanship may get a contract, it isn't the kind of selling that justifies the term 'transportation engineer.'"

Sometimes it isn't so much a problem of increasing the speed of the equipment, as it is rearranging routes to prevent idle traveling, or designing a body that will fit the product as well as the chassis. Often it is a case of advertising value. Johnson holds that for every two people that come into a place of business, there are 2000 who see the company's trucks going up and down the streets. Hence, he argues, that smart truck jobs are more important from the advertising standpoint than neat fixtures and displays within the store. The advertising value of a truck he figures on the basis of a billboard—from $50 to $200 per month rental. He always gets down to figures and brass tacks, as an expert should and often supervises the drawing of a truck body, with illustrations and copy to suit the particular advertising needs of an operator. It's all a part of his job as "counselor."

Johnson discovers just what type of transportation his prospect needs, and when he has definitely determined that point, nothing can pry him loose until the name goes on the dotted line.

The truck man who knows more about a prospect's transportation problem than does the client himself, and can analyze gathered information in terms of dollars and cents saved in fleet expense, or improved efficiency, need not call himself a "truck salesman"; he's a "transportation counselor" and this fact will make him a welcome adjunct to any fleet.

Form New Truck Division

The motor truck industry will be represented by a separate division in the Chicago Association of Commerce, according to the executive committee of that organization. The new department, known as the Motor Truck Industries Division, was deemed necessary because the problems of the truck interests are so distinct from passenger car interests with which they were formerly associated. Statistics show that the truck industry in Chicago district represents an investment of more than $25,000,000 in buildings and machinery, with sales totaling more than $50,000,000 annually.

DAY-ELDER REVISES ENTIRE LINE

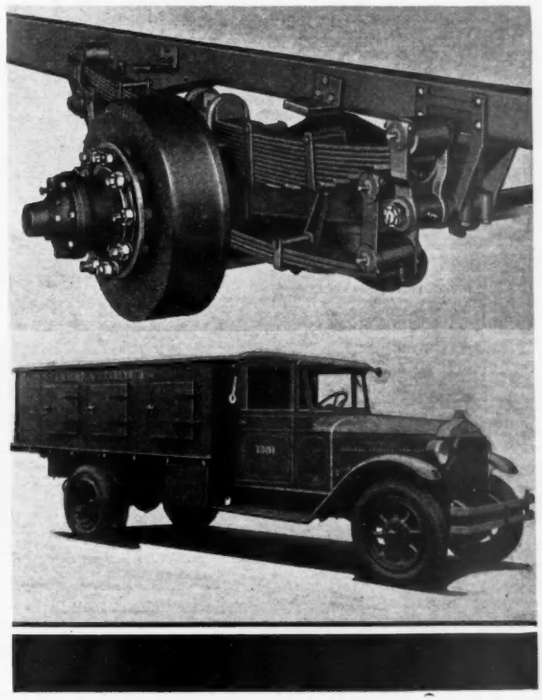
New Seven-Unit Line Has Six-Cylinder Engines, Four-Wheel Brakes and Stream-Line Appearance

ACCORDING to an announcement made by the National Motors Mfg. Co., Irvington, N. J., the entire Day-Elder line, now designated as the 1929 Day-Elder Super-Service Sixes, has been redesigned from the standpoints of appearance, construction and performance. Appearance has been enhanced by streamlining and remodeling the radiator, hood, cowl, fenders and runningboards. Hoods are longer, and the easy downward sweep of the fenders to runningboards create the impression of length. Cabs are of the full-vision type with narrow posts and sloping one-piece windshields. Seat cushions, back rests and adjustable steering gear have been designed to afford maximum driver comfort. Instrument panels on the dash are within easy reach of the driver and are illuminated by concealed lights.

Equipped with six-cylinder engines and hydraulic internal four-wheel brakes, all models are equipped with four-speed transmission with the exception of the 1¼ and 1½-ton sizes, which provide three speeds. Final drive on the lighter models is of the full-floating bevel gear type, while on the larger models worm-drive full-floating type rears are used. Although the two and three-ton models are regularly equipped with bevel gear rear axles, provision is made to furnish worm drive when required.

(Turn to page 56, please)

Below: The light spring of this assembly on Model 30A serves as a shock dampener, while the heavy spring takes most of the load. Bottom: Day-Elder Model JF is rated at 6000 lb. and priced at $3,900

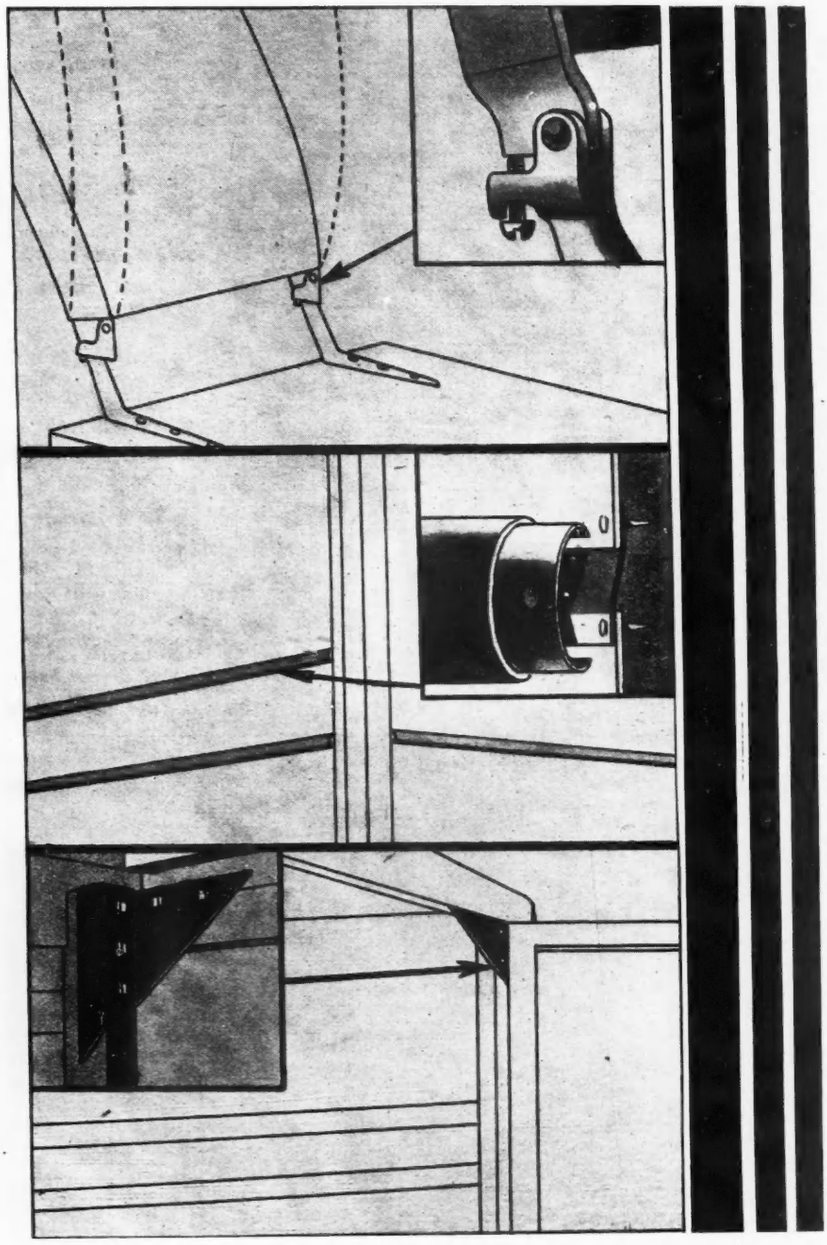


Specifications Day-Elder Models

Model	GF	HBF	JF	30A
Price	$2050	$2500	$3900	$5400
Capacity (lb.)	3000	4000	6000	30-pass.
Body allowance (lb.)	1200	1200	2000	4000
Weight, chassis (lb.)	3900	4400	6500	7300
	4200	4900		
Wheelbase, standard (in.)	156	156	165	220
optional (in.)	186	186	156-180-204	232
Tires, front, standard (in.)	30x5	32x6	36x6	36x6
optional (in.)		30x5	36x5 Solid	
rear, standard	32x6 S	34x7	36x6 Dual	36x6 Dual
		30x5 Dual	36x10 Solid	
Engine, number and size cylinders	6—3⅛x4⅝	6—3⅛x4⅝	6—4x4½	6—4⅛x4¾
displacement (cu. in.)	248.3	248.3	339.3	427.5
hp. and r.p.m.	65 @ 2700	65 @ 2700	81 @ 2400	105 @ 2500
valve arrangement	L-head	L-head	Over H.	Over H.
spark plugs	⅞	⅞	⅞	⅞
diameter of main bearings (in.)	2⅜	2⅜	2¾	2¾
compression ratio	5 to 1	5 to 1	4.38 to 1	4.19 to 1
suspension	3-point	3-point	3-point	3-point
Front end drive	Chain	Chain	Chain	Chain
Governor	None	None	Built-in	Built-in
Carburetor	Zenith	Zenith	Zenith	Zenith
feed	Stewart vacuum	Stewart vacuum	Stewart vacuum	Stewart vacuum
Gasoline tank, location	under seat	under seat	under seat	side frame
capacity (gal.)	14	25	25	45
Ignition	Delco-Remy	Delco-Remy	Delco-Remy	Delco-Remy
distributor	battery	battery	battery	battery
Generator	Delco-Remy	Delco-Remy	Delco-Remy	Delco-Remy
how driven	chain	chain	chain	chain
Starter	Delco-Remy	Delco-Remy	Delco-Remy	Delco-Remy
Radiator	Bush	Bush	Bush	Bush
type	tubular	tubular	tubular	tubular
Clutch	B-L 20A	B-L 35	B-L 51	B-L 55
type	Mul. Disk	Mul. Disk	Mul. Disk	Mul. Disk
Transmission	B-L 20A	B-L 35	B-L 51	B-L 55
mounted and number speeds	Unit 3	Unit 4	Unit 4	Unit 4
Universals	Spicer	Spicer	Spicer	Spicer
type	metal	metal	metal	metal
Propeller shaft	double	double	double	double
Front axle	Timken	Timken	Timken	Timken
Rear axle, make and model	Timken 54000B	Timken 54000B	Timken 65000W	Timken 6511W
final drive	bevel	bevel	worm	worm
type	full-floating	full-floating	full-floating	full-floating
ratio, standard	6 4/5	6 4/5	7¾	6¾
ratio, optional	5 5/6	5 5/6	7, 8½	7¼, 7¾
Drive	springs	springs	rad. rod	rad. rod
Steering gear, type	Ross cam lever	Ross cam lever	Ross cam lever	Ross cam lever
Service brake, front wheel...				
type	hydraulic	hydraulic	hydraulic	hydraulic
size of drum (in.)	16x2¼	16x2¼	16x2¼	
Service brake, rear wheel...				
type	hydraulic	hydraulic	hydraulic	mech. vac.
size of drum	16x2¼	16x2¼	17¼x4	21x5
Propeller shaft brake	Salisbury	Salisbury	Tru-Stop	Tru-Stop
type	external	external	disk	disk
size	8 in.	8 in.	15 in.	15 in.
Springs, front	40x2¼—9	40x2¼—10	42x2½—9	46x2½—12
Springs, rear	54x3—13	54x3—14	56x3—17	64x3½—14
Shock absorbers				Gruss air front
Frame	5¾	5¾	7	8⅛
width	3¾	3¾	4	3¾
thickness	¼	¼	¼	5/16
overall length	228½	228½	214½	327½
width, rear	33½	33½	35	33
Wheels, make	Budd	Budd	Budd	Budd
type	disk	disk	disk	disk
rim size	20x5	20x6	24x6	24x6
Chassis lubrication	Alemite	Alemite	Alemite	Alemite
Length, dash to center of rear axle	126½	126½	172¼	184
Length, dash to end of frame	180	180	[illegible]¾	269¼
Turning radius	24	24	26	27

YORK-HOOVER BODIES

Similar Line Also Furnished for Chevrolet and International Harvester Models



Structural features of the York-Hoover line. Top: Showing range of adjustment of lazy-back. Inset shows set-screw arrangement for adjusting to any desired angle. Center: Galvanized metal strips waterproof the joints and snap-on molding provides the finish. Bottom: Gusset plates at the top corners reinforce frame-work

MORE than 70 models of bodies with and without cabs are being furnished by the York-Hoover Body Corp., York, Pa., for mounting on Ford Model A and AA chassis. Lowness, streamlining and color have been effectively combined with design and construction to provide attractiveness as well as utility. Roofs, sides, doors, windshields, etc., are built in jigs and are therefore interchangeable and available for replacement through distributors. In addition to the open and canopy top express, panel, suburban and stake bodies, which are offered in a variety of types and sizes, the line includes stock bodies specially designed for vocational service such as live stock hauling, dyer, grocer, huckster, contractor, etc. Bodies designed to fit Chevrolet and International Harvester chassis are also offered by the York-Hoover Corp.

The chief difference between models of the same classification consists of different heights, lengths, widths, panel heights, number of posts supporting canopy, size of wheelhouses.

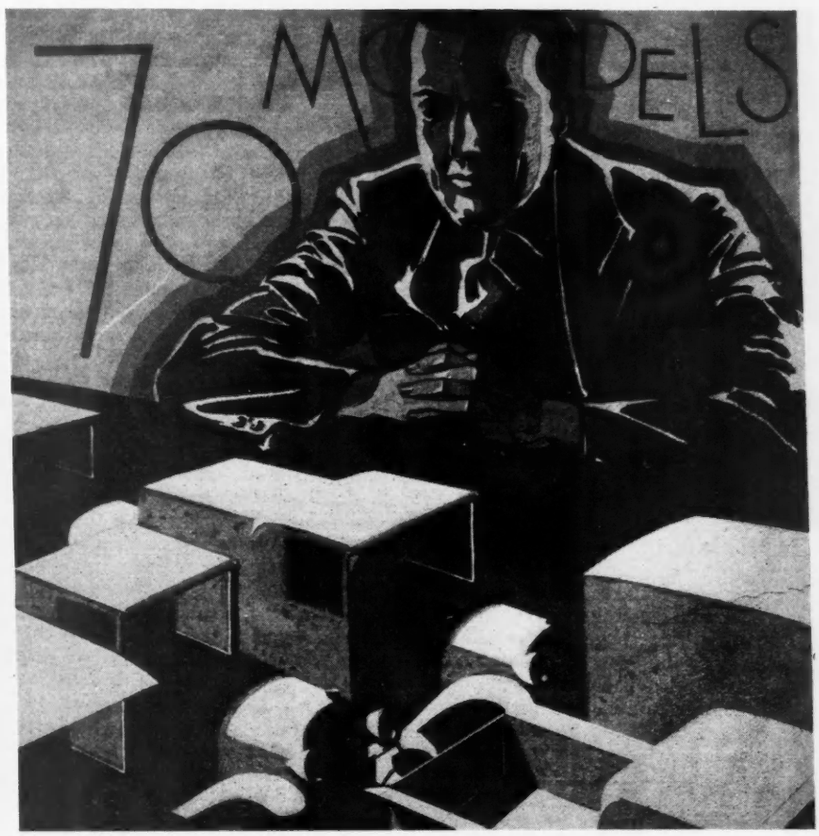
All panel work consists of three-layer material known as Bettermetl. It is a combination of wood, felt and metal, designed to prevent warping, provide firm sides and afford insulation against heat or cold. The inside wood sheeting is made up of 5/16 in. poplar sections, 6 to 8 in. wide, tongued and grooved. A layer of felt is applied against these boards. Metal sheets are attached in two sections, but to prevent the admission of moisture at the joints, a strip of galvanized metal is inserted beneath the top panel and extended over the lower panel. Snap-on molding (see illustration) is used to finish joints attractively. Panel bodies are regularly furnished with double doors at rear end.

Framework is composed of hardwood posts mortised into the bottom sill and reinforced by angle irons bolted through floor to sills and to the posts. Gusset plates bolted at the top corners complete the reinforcing. Elimination of jackarms and the substitution of pressed steel corner irons is pointed out as a new development. Floors are shiplapped and equipped with metal runners on some jobs. Roofs are of solid slatted construction.

Bodies are finished in either of three two-tone Duco color combinations, namely, green, maroon, or blue and cream.

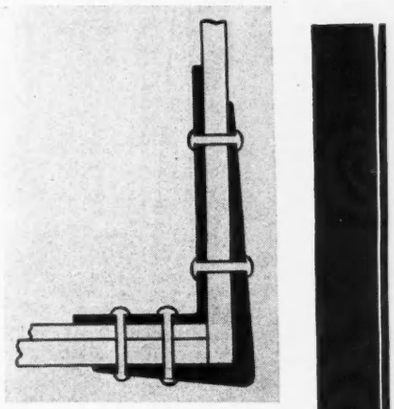
Rear-end bodies or those bodies designed for use in connection with

FOR FORD CHASSIS

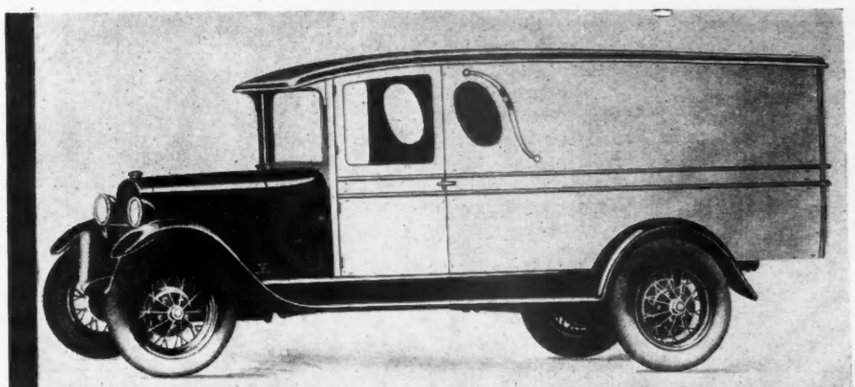


Standard Ford cabs are finished in gun metal to match standard color of Ford cabs.

Cabs are 39 in. long, 53 in. wide and 56½ in. high and are constructed with solid backs with sliding glass windows.



Pressed steel corner arms replace jack-arms on panel models

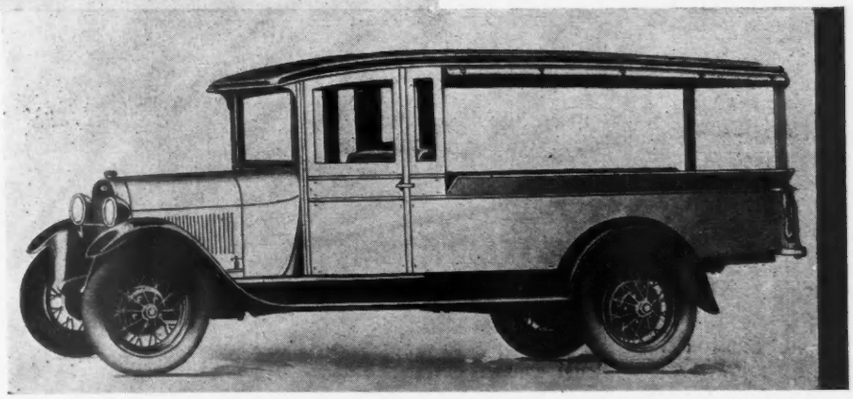


Above: Model F-63 panel body. It is 96 in. long, 46 in. wide and 53 in. high

cowl and dash to prevent squeaks. Spring cushions and full spring lazy-backs are upholstered in Spanish Art leather.

In order to give the driver the best of comfort, panel bodies are fitted with adjustable bucket seat backs that are adjustable by quickly accessible set screws at the joints (see illustration on page 46). These screws control a 9-in. arc adjustment.

Below: Model F-40 canopy top express body. It is 102 in. long, 44 in. wide and 50 in. high



They are furnished with either sedan vestibule doors, metal line and equipped with ground glass or rolling vestibule doors equipped with drop sashes. Sedan doors are equipped with locking handles. Sun visors are built in the roof and windshields are one-piece framed in steel and ventilating either in or out. Front body posts are slender. Welts are used between

FRONT-WHEEL DRIVE

(Continued from page 19)

which he sold in considerable numbers to fire departments to enable them to motorize their horse-drawn fire trucks and ladder wagons at comparatively low expense. Christie also applied the front drive to racing cars with engines set crosswise.

In France the Latil front-drive trucks have been made for many years. Some of these trucks have been used for special purposes in which a very low floor height is essential, as for the transportation of racing horses between stables and track. But the front-drive chassis have been used also for other purposes, such as department-store delivery, dump trucks, etc.

The fact that the whole of the propelling mechanism is in a single unit at the front end, makes it possible to place the body floor quite low without providing a tunnel for the propeller shaft or a housing over the rear axle. This unit construction has another advantage. The front axle and powerplant unit usually can be quickly removed from the vehicle and replaced by a similar unit. This feature undoubtedly will appeal to fleet operators, since it makes the provision of a number of extra power units equivalent to the provision of an equal number of spare vehicles of the conventional type.

Front wheel drive is not directly related to independent springing of the road wheels, but it does seem to facilitate the application of this latter feature, and most of the European front-driven cars also have independently sprung wheels. The advantage of independent springing is that it materially reduces the unsprung weight, thus reducing the stresses on wheels and tires, and equally reducing the wear and tear on roads.

It is now customary in the truck industry to give an option on two or more lengths of wheelbase. Furnishing their vehicles in different lengths is often quite a source of bother to the manufacturers. For instance, in certain trucks a single propeller shaft can be used with the standard wheelbase, but with the long wheelbase the distance between the rear of the transmission and the rear axle center housing becomes too great for a single shaft, and not only an additional shaft, but also an intermediate bearing, usually requiring an extra frame cross member, is required. With front wheel drive there is no propeller shaft to the rear axle to be considered, and lengthening the wheelbase means merely increasing the frame length and the lengths of brake rods.

It has now become customary in panel bodies to extend the side panels down to the level of the running boards, for the sake of appearance. This gives the impression that the floor is at the same level as the running board, while actually it is considerably higher. With a front-wheel drive a drop frame would be used, and the floor actually carried at the height of the running board. This could be taken advantage of either to increase the loading space or to lower the whole body, whichever seemed most desirable.

The fact that the rear axle of a front-drive vehicle is of the dead type makes it easy to provide any desired chassis width at the rear without much trouble or expense. This makes it easy to eliminate wheel houses.

There is one difficulty that has to be met if front drive is to be applied to trucks, and that relates to the problem of securing sufficient traction when the roads are slippery. In a truck with rear-wheel drive, in order to obtain sufficient traction under the most difficult conditions, the pay load is usually substantially balanced over the driving wheels, so that with a full load from 75 to 80 per cent of the total weight rests on the drivers. When the truck is being propelled forward, this proportion is further added to by the reaction to the driving torque. When the driving wheels are being rotated forward with a certain driving torque or turning moment, the truck frame tends to turn in the opposite direction with the same turning moment, the result being that the ground pressure of the front wheels is reduced and that of the rear wheels increased. This is generally expressed by saying that by the application of the driving power, weight is transferred from the front wheels to the rear wheels. The proportional amount of this weight transfer depends upon the ratio of the wheelbase to the radius of the driving-wheel. For instance, if the wheelbase is 10 times as long as the wheel radius, then under maximum traction conditions, that is, when the rear wheels are pulling about as much as they are capable of, the amount of weight transferred from the front to the rear wheels by the application of driving power amounts to about 5 per cent of the total weight of truck and load.

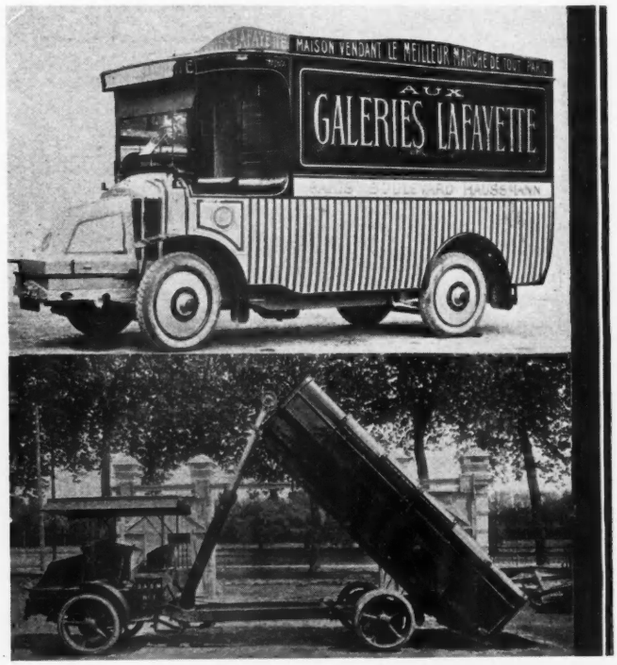
This same transfer of weight from the front to the rear wheels takes place when the truck is being driven by the front wheels. Thus, if it were necessary to have the same limiting traction with the front drive as is now obtained with the rear drive, the distribution of weight would have to be about 85 per cent on the front axle and 15 per cent on the rear axle. To obtain this weight distribution the frame would have to overhang the front axle a good deal more than it overhangs the rear axle in a conventional truck. Moreover, steering would be much harder, for whereas in the conventional truck approximately 25 per cent of the total weight rests on the front axle when the driving is light, in the front-drive truck designed for equal limiting traction, this figure is 85 per cent.

A consideration of these figures leads one to the conclusion that front wheel drive is not likely to be used for the all-purpose truck that must be capable of pulling out of an excavation with a full load. Its use in the truck field, if any, will probably be limited to special-purpose vehicles in which a very low floor height is essential.

In the case of vehicles intended to run on hard roads only it is, of course, not necessary to have as high a limiting traction as must be provided in the all-purpose truck, and an equal division of the total weight between the front and rear wheels is quite sufficient. The front-wheel drive may possibly help to solve the difficult problem of a motor vehicle suitable for house-to-house delivery.

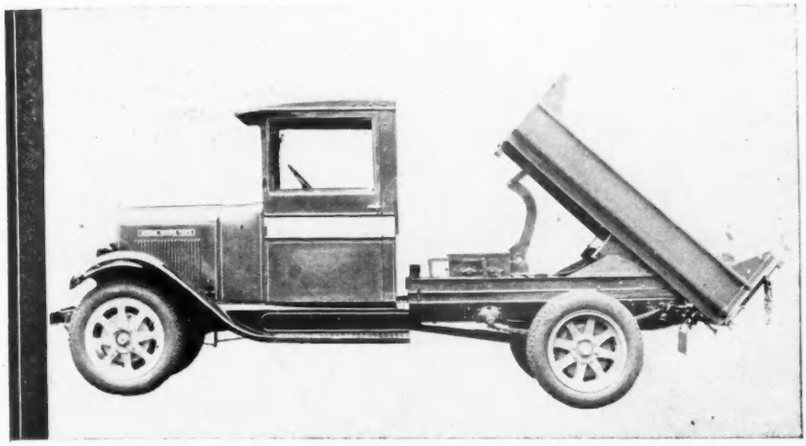
In a front driven vehicle the engine, change-speed gear and final drive usually are combined in a single rigid unit, which is spring suspended, and the axle, of course, must be (at least substantially) in line with the final

(Turn to page 57, please)



Above: Latil front-driven department-store-delivery wagon Below: Latil front-driven dump truck.

GALION POWER HOIST DUMP BODY



New Galion mechanical power hoist dump body elevated to dumping position. Note front end lift and how rear end chassis parts are cleared for dumping

Offered in 1 and 2-yd. Capacities and Featured by Front End Lift and Rollback

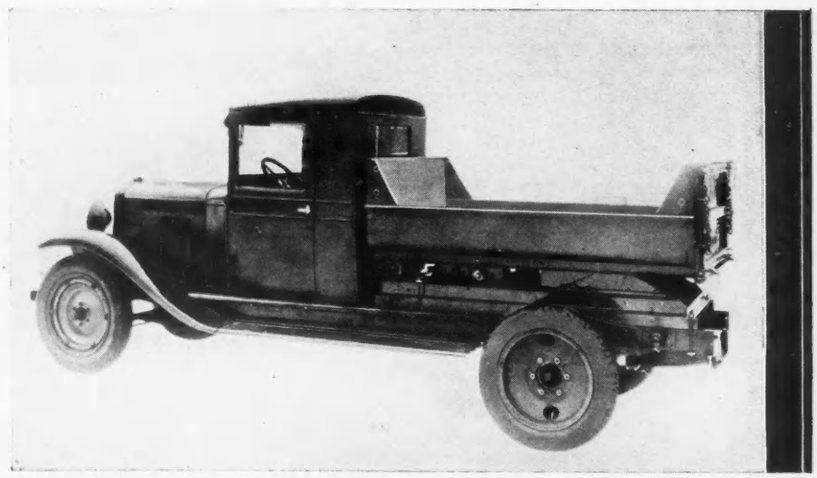
Close-up showing drive, lifting mechanism and rollback mechanism. Details are given in the article

THE Galion Allsteel Body Co., Galion, Ohio, has a new mechanical power hoist dump body which is interchangeable on all makes of trucks. This new equipment is featured by its lifting mechanism, which exerts lifting effort at the front end of the body, and a rollback construction, which permits mounting to any chassis without altering frames. The bodies have 11-in. sides but are convertible from 1-yd. to 2-yd. capacities by the addition of 11-in. side boards.

Power to operate the hoist is taken from the take-off through a propeller shaft equipped with universal joints to a worm. A spur gear mounted on the worm wheel shaft meshes with another spur gear mounted on a shaft located above the sub-frame. Connection to the shaft carrying the crank is made by another set of gears. Reduction at the crank is 213 to 1, at which reduction the complete dumping cycle, up and down, requires about 8 seconds. The crank is connected to the lifting arms by means of a link-bar pivoted at both ends, which permits a jack-knife action. Two angle irons bolted to the bottom and forward end of the body receive in a pivot joint the upper end of the lifting arms. As shown in the illustration the upper end of the lifting arms is at right angles to the main support. The lower end of the lifting arms are pivot mounted to a cross-member of the sub-frame. When the body is in a lowered position this upper section rides up and between the angle irons.

Welded to the frame at each side and just to the rear of the lifting arms are two tracks, on which the body mounted on four rollers rolls backward and upward, raising the body at the front but lowering it at the rear. When the body is raised to its dumping height the rollers also serve as a pivot upon which the body bears when dumping. This construction is known as the Rollback and because of it, the makers point out, the body can be mounted on all 1 and 1¼-ton chassis without cutting chassis frames. The Rollback principle also permits materials discharged to clear chassis parts and maintains a high ground clearance for a complete load dump.

When the body is lowered the lifting arm folds under the body and the body is supported by the rollers in the rollback and a bracket in front



NEW PRODUCTS FOR THE TRUCK MARKET

Honing Base

A heavy cast base to which engine may be bolted for honing out of block, assembling, valve work, etc., is being offered by The Hall Mfg. Co., Toledo, Ohio. Has petcock and drain plug and comes equipped with three Y supports for holding rear axle assemblies. Provides rigid base for honing with engine out stand. Specifications: Length, 36 in.; width, 20 in.; height, 13½ in.; weight, 150 lb., and price, $40.

Reamer Grinder

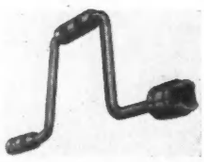
The Black & Decker Mfg. Co., Towson, Md., has brought out a reamer grinding attachment for mounting on its ⅝-in., 1-in. and 1½-in. valve refacers. It will accommodate straight or spiral reamers up to 5 in. diameter, 14-in. length and 7-in. blade length. Mounting is rigid and carriage is operated by lever. A graduated micrometer taper attachment is provided for grinding tapered reamers. Equipment includes tooth rest, gage for setting tooth rest to correct height and diamond holder for dressing grinding wheel.

Drill Stands

The Wodack Electric Tool Corp., Chicago, furnishes with its new ⅜ in. portable electric drill a stand, at extra cost, for holding the drill vertically for drilling, and horizontally for grinding and buffing. Feed is by lever and return by spring. The drill is powered by a variable speed G. E. Universal motor controlled by trigger switch. Weight, 7½ lb.

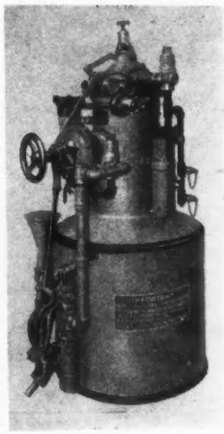
Rim Nut Wrench

Made by the Bonney Forge & Tool Works, Allentown, Pa., this wrench has alloy steel jaws which automatically adjust themselves to any of the different size nuts used on demountable rims. Motion in either direction locks the jaws. The head and handle can be purchased separately.



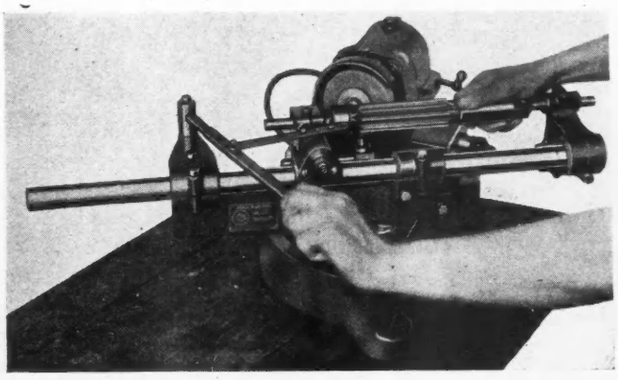
Acetylene Generator

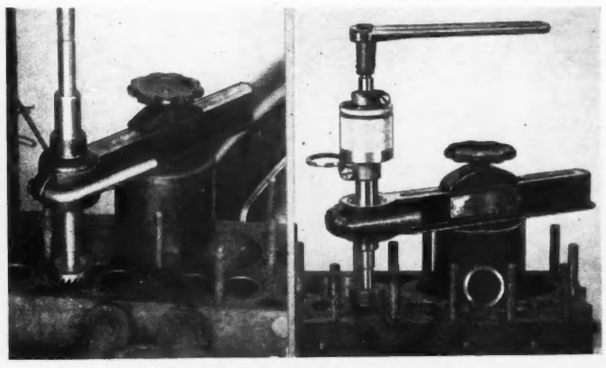
The new Type MP-2 medium pressure acetylene generator, made by the Oxweld Acetylene Co., New York City, is offered in two sizes, 50 and 100 lb. carbide capacities. It is similar in construction to its predecessor Type MP-3 with improvements. The feed mechanism has been redesigned, and a new and larger capacity stem type regulator is provided equipped with two gages showing pressure in generator and in delivery line. About 11 lb. is the maximum delivery pressure and 15 lb. is the relief blow-off pressure.



Valve Reseater

A valve tool for reseating valves, cutting new seats and boring valve guides that supports the pilot above the engine block and in line with the valve guide is being offered by the Willis-Jones Machinery Co., Inc., Seattle, Wash. It consists of a radial arm with ball bushing, mounted on a cylindrical base, which is bolted on the block. After aligning the pilot with the guide, the base hand wheel nut and the locking lever at the end of the arm are securely tightened. Because of the ball bushing the pilot can be swung 22 degrees from the vertical for working on offset valves. The company furnishes valve seats, drift handles and heads for reseating, boring bars, etc.





Give the driver an *Even Break* ▸▸▸

Piloting a bus or truck in modern traffic is anything but child's play. Schedules have to be maintained and passengers, pedestrians and property must be protected from accident. All this responsibility rests upon the shoulders of the driver.

Ross Cam and Lever promotes speed and safety by providing easier wheel turn, firm, steady, responsive steering under all conditions. It permits the driver to think and act quickly in emergencies. You can make the driver's task easier and safer by insisting upon Ross Steering in the buses and trucks you buy—or by installing it in the ones you have.

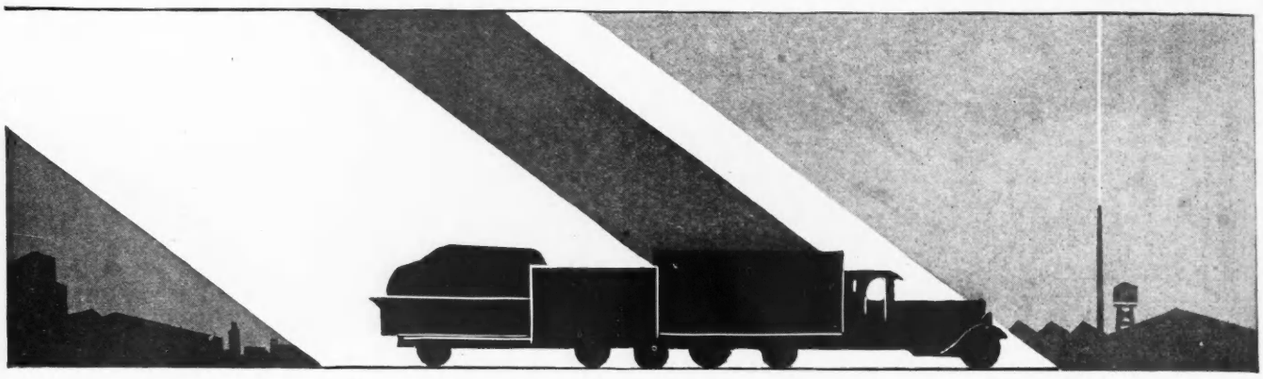
Most truck manufacturers, as well as the majority of passenger car manufacturers, use Ross as standard equipment.

ROSS GEAR & TOOL COMPANY, *Lafayette, Indiana*

ROSS

ROSS
Cam & Lever
STEERING

TRUCK INDUSTRY



N-E-W-S

Four Wheel Drive Acquires Menominee Truck

The Four Wheel Drive Auto Co., Clintonville, Wis., has acquired majority interest in the Menominee Motor Truck Co. The Menominee plant lies just across the railroad tracks from the F.W.D. works. It will be operated by FWD as the Utility Supply Co., manufacturing derricks, winches, power take-offs, trailers and earth-boring machines, and continuing the production of Menominee trucks and servicing this line. The new arrangements will permit of a substantial increase in the output of both equipment and FWD trucks.

New Diamond T Prices

New prices and a new production program for two of the units of the Diamond T line is revealed in a statement issued by C. A. Tilt, president of the Diamond T Motor Car Co. Volume production and a new merchandising plan has made the reduction possible. Under the new arrangements the 2½-ton Model 502 is priced at $2,675 and the 3-ton Model 601, $3,510.

Mack Promotes Lierman

A. D. Lierman has been appointed advertising manager of the Mack-International Motor Truck Corp. Mr. Lierman has been acting advertising manager since the death of H. C. Bailey last July.

Three Studebaker Appointments

Appointment of three division commercial car representatives has been announced by the Studebaker Commercial Car Division: J. L. Engels, formerly sales promotion manager, will head the western division with offices at San Francisco; C. H. Miller has been placed in charge of the eastern division with offices in Philadelphia; and T. E. Connor, formerly commercial car representative for the St. Louis branch, will manage the middle western division.

Pierce-Arrow Profits

Pierce-Arrow Motor Car Co. and subsidiaries report net profit for the four months ended April 30, after all charges, of $879,679. Net profit for April was $431,147.

Mack Has Profitable Quarter

Mack Truck, Inc., reports net profit for the first quarter, after all charges, of $1,429,587, which compares with $745,672 for the first quarter of 1928.

C. A. Musselman

President of the Chilton Class Journal Co. and newly-elected president of the Associated Business Papers, Inc. Mr. Musselman succeeds C. J. Stark, president of the Penton Publishing Co.

Stewart Brings Out New 3½-Ton Truck

Stewart Motor Corp. announces a new fast, heavy-duty 3½-ton model powered by a six-cylinder 3⅞ x 5 in. engine developing 90 hp. at 2700 r.p.m. Carburetion and ignition is by Stromberg and Delco-Remy. A range of 12 speeds forward and three reverse is accomplished by the use of an auxiliary 3-speed transmission mounted amidships. This new unit is furnished with 165 in. standard wheelbase; 147 in. short for dump bodies and trailer equipment, and optional wheelbases as follows: 176, 190, 220 and 235 in. The price is $3,690.

New N.S.P.A. Members

The following manufacturing members were recently elected to the National Standard Parts Association: Ferodo & Asbestos, Inc., Mayhew Steel Products, Inc., Maremont Mfg. Co., Perfect Circle Co., and Simonds Saw and Steel Co.

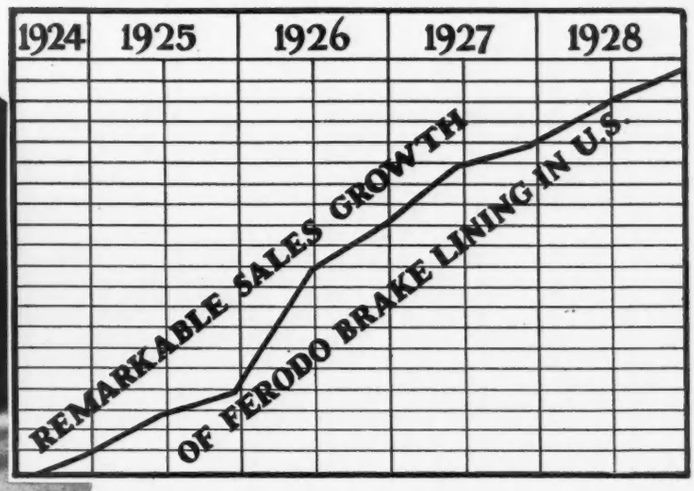
White Promotes Webb-Peploe

R. H. Webb-Peploe, manager of the Newark district for the White Co., has been promoted to manager of the New York district, with headquarters at Long Island. H. L. Magor has been advanced to acting manager of the Newark office.

Brockway Profits, $1,034,315

Brockway Motor Truck Corp. and subsidiaries reports net earnings for 1928 of $1,034,315 after all charges, comparing with $1,209,554 in 1927. Sales in 1928 totaled $18,635,459 against $15,133,563 in the previous year.

Commercial Car Specifications on Page 65



on and on to NEW RECORDS

Ferodo Must Be Better

On and on, month after month, Ferodo sales climb to new records—as this chart shows. And when you remember that Ferodo lists for 30% more a foot than ordinary brake lining, you can come to only one conclusion about its remarkable growth! Ferodo *must* be better!

It is! Old customers know it and keep coming back for more. New users are daily proving for themselves the ten counts of Ferodo superiority. Why don't YOU try Ferodo Brake Lining? Test it any way you can—then you will agree that Ferodo *is* better.

10 Points of Superiority:

1. High Average wear-life.
2. Constant Gripping Power (co-efficient of friction) to over 550° F.
3. Safe brakes in wet weather.
4. Will not burn out.
5. Fewer adjustments.
6. No swelling or shrinkage.
7. Size accuracy—within tolerance of .005".
8. No glazing.
9. Silent, smooth operation.
10. Cheaper per mile of service.

FERODO AND ASBESTOS
INCORPORATED
New Brunswick, New Jersey

FERODO
REGISTERED
BRAKE LINING

E. 6-29

American-LaFrance-Republic Combine Completed

The consolidation of the Republic Motor Truck Co., Inc., and its subsidiary, the Lynn Mfg. Corp., with the commercial truck division of the American-LaFrance and Foamite Corp. was completed in May. The new corporation will be known as the LaFrance Republic Corp. and the sales subsidiary as the LaFrance Republic Sales Corp. The officers are: Joseph A. Bower, chairman of the board; Charles B. Rose, president; George R. Hanks, Franklin T. Pierce, Orley M. Canter and Thomas M. House, vice-presdents; Glenn S. Crisp, secretary, and Ralph W. Stark, treasurer.

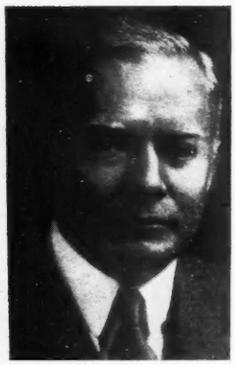
Rose Heads LaFrance-Republic

Grainger on Allbestos Board

C. A. Grainger, general sales manager of the Allbestos Corp., has been elected a member of the board, according to William G. Kitchen, president.

Rogers Killed in Cleveland

W. T. Rogers, in charge of export credits and collections of the White Motor Co., was killed in the recent blast occuring in the Cleveland Clinic.



Lothrop New Timken President

Marcus T. Lothrop was elected president of the Timken Roller Bearing Co. at the recent annual meeting of the company. Mr. Lothrop succeeds H. H. Timken, who became chairman of the board of directors.

Morgan With Gramm

R. K. Morgan has been made vice-president in charge of sales of Gramm Motors, Inc., Delphos, Ohio, with headquarters at 646-52 East Woodruff Ave., Toledo, Ohio.

Clendenin With Ward

John C. Clendenin has accepted a position as sales engineer with the Ward Vehicle Co., Mount Vernon, N. Y. Mr. Clendenin was formerly with the automotive engineering department of the General Electric Co.

Coming Events

SHOWS

Atlantic City — American Bottlers of Carbonated Beverages.....Nov. 11-15
Chicago—Motor & Equipment Assn. Nov. 4-9
Detroit—National Standard Parts Assn. .....Nov. 11-16

CONVENTIONS

Atlantic City—American Electric Railway Association .....Sept. 28-Oct. 4
Chicago—National Safety Congress, Sept. 30-Oct. 4
Detroit—National Standard Parts Assn. .....Nov. 11-16
Saranac Lake—S.A.E. Summer Meeting .....June 25-28

Wheel & Rim Service

At a recent directors meeting of the National Wheel & Rim Association, it was reported that tire dealers and distributors and manufacturers throughout the nation are endorsing and lending support to the movement sponsored by the association in rendering one-stop 100 per cent rolling equipment service to vehicle owners.

White Promotes Avery

L. G. Avery, manager of the sales promotion department of The White Co. since 1926 has been promoted to the managership of the Detroit district. Walter A. Maynard, transportation engineer, has been appointed sales promotion manager.

Wallace Goes to Australia

William Wallace, who has been South African division manager of The White Co., has been promoted to manager of the Australian division with headquarters in Sydney.

Joseph G. Ryan Reelected

Joseph G. Ryan, president of the Pacific Motor Transport Co. of Seattle, was reelected president of the Washington Motor Freight Association, Inc.

Willys-Overland Reelects Officers

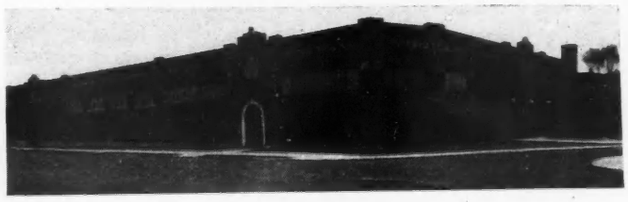
All officers and directors of the Willys-Overland Co. were reelected by the stockholders.

James E. Gillespie

James E. Gillespie, 44 years old, assistant to the president of the Stewart Motor Corp., died recently of pneumonia.

Reynolds Fageol Distributor

The Reynolds-Fageol Co., Salt Lake City, Utah, has taken over the distributorship of Fageol trucks in Utah, Idaho and Nevada.



New International Harvester Baltimore branch provides 37,000 sq. ft. of floor area. E. D. Cummings is branch manager

Studebaker Offers New One-Ton Truck

A new 1-ton truck powered by a 75 hp. six-cylinder engine has been announced by the Studebaker Corp. Bodies of two types are being offered, with 155.3 and 181.8 cu. in. loading space, respectively. The six-cylinder engine has cylinder dimensions of 3⅜ x 4⅝ in., which gives a piston displacement of 248 cu. in.

Autocar Elevates Borton

C. A. Borton, manager of the Boston factory branch of the Autocar Co., has been appointed assistant to the president and will be assigned to the factory for duty. Mr. Borton has been with the Autocar organization since 1906. Edward F. Coogan, manager at New Haven, will succeed Mr. Borton in Boston, and J. E. Higgins has been transferred from Providence to succeed Mr. Coogan. W. E. Baker, formerly of the International Harvester Co., will manage the Providence branch.

Conway With Atterbury

William E. Conway, formerly vice-president in charge of sales of the Relay Motors Corp., Lima, Ohio, is now sales manager of the Atterbury Motor Car Co., Buffalo, N. Y. "Bill" goes to Atterbury with years of worthy achievement in the truck industry.

Wright Enters New Quarters

The Wright Manufacturing Co., manufacturers of chain hoists, trolleys and cranes, recently moved their New York City offices to new quarters in the New York Central Building at 230 Park Ave.

Reo Uses K.P. Governors

The Handy Governor Corp. reports reports that a large number of K.P. governors will be used as standard equipment on Reo Speed Wagons.

Fruehauf Appoints Snyder

H. E. Snyder, who for the last 13 years has been associated with the Federal Motor Truck Co., has been appointed general factory superintendent of the Fruehauf Trailer Co.

The Final Answer

Lockheed Hydraulics are at once the result of and the final and conclusive answer to the present-day needs of high speed in commercial transportation. That is why the three commercial car manufacturers who overwhelmingly dominate the light truck market, equip with Lockheeds. And that, also, is the reason why the already large number of truck manufacturers (outside the three leaders referred to) using Lockheed Hydraulics, is growing with a rapidity that is actually sensational.

HYDRAULIC BRAKE COMPANY, DETROIT, MICHIGAN, U. S. A.

LOCKHEED HYDRAULIC

Four BRAKES *Wheel*

TERMINAL TARIFFS

(Continued from page 31)

minal and held for disposition orders from the consignor, returned to the consignor at regular tariff transportation rates for the return haul, or stored at a public or licensed warehouse subject to the lien of the carrier for transportation charges provided by tariff and a reasonable charge for storage.

11. Shipping instructions must be submitted to the carrier on the regulation bill of lading forms.
12. Rates one class higher than those normally assessed are charged upon all shipments which are not properly packed or crated.
13. The shippers' declared valuation of the goods of excessive valuation must be shown on the face of the shipping instruction to the carrier. Extra charges for insurance are assessed upon shipments at the rate of one-tenth of 1 per cent of the declared value, with a minimum of 25 cents per shipment.
14. Shipments requiring Collect-On-Delivery, C.O.D., service are accepted by the carriers only when the packages and shipping instructions show that the service is to be performed and the amounts to be collected on delivery. Invoices for the goods must be surrendered with the bills of lading. Charges at the rate of one-fourth of 1 per cent, with a minimum charge of 25 cents per shipment, are assessed for the collection on delivery service and the remittance of the proceeds of the collections.
15. Pick-up service is performed, unless other provisions are made in the tariff, for a charge of 5 cents per 100 lb., subject to a minimum charge of 50 cents.
16. Minimum charges of 50 cents are assessed upon all shipments.
17. Store-door delivery is defined by the tariff rules as delivery at the ground floor not over 25 ft. from the sidewalk or store entrance. An extra charge is made for any delivery service in excess of this delivery at the rate of 5 cents per 100 lb., except for delivery at the second floor or at the cellar, for which extra charges of 10 cents per 100 lb. are assessed.
18. Shipments which the carriers are unable to make delivery are held subject to the owner's disposition for a period of 60 days, after which the goods are sold for freight charges.
19. The tariff rules provide that the carriers are not liable for concealed loss or damage unless the consignees open the packages and permit the drivers of the carriers' trucks to inspect the contents of the packages. Shortage must be proved by checking the contents of the packages against the shippers' invoices and notations of shortage or damage must be made, upon the paid freight bills, setting forth all exceptions to clear delivery. These notations must be signed by the carriers' drivers.

Railroad Freight Classes Official Classification

Higher than first class:

5½ times first class	(5½ to 1)
5 times first class	(5 to 1)
4½ times first class	(4½ to 1)
4 times first class	(4 to 1)
3½ times first class	(3½ to 1)
3 times first class	(3 to 1)
2½ times first class	(2 to 1)
2 times first class or Double first class	(D 1)
1½ times first class	(1½ to 1)
1¼ times first class	(1¼ to 1)

First Class or lower:

First class	1
Second class	2
Rule 25	R.25*
Third class	3
Rule 26	R.26†
Fourth class	4
Fifth class	5
Sixth class	6

Motor Truck Freight Classes As Provided by Motor Carriers' Regulations

Higher than first class:

3 times first class	(3 to 1)
2 times first class or Double first class	(D)
1½ times first class	(1½ to 1)

First Class or lower:

First class	1
*Second class and Rule 25	2
†Third class and Rule 26	3

All classes lower than third class and Rule 26 rated at third class, or not accepted, except at special rates and arrangements.

* Rule 25, 15 per cent lower than second class, but not lower than third class.

† Rule 26, 20 per cent lower than third class, but not lower than fourth class.

20. Claims for loss and damage are not received by the carriers for investigation unless they are supported by the original bill of lading, the paid freight bill, a certified copy of the shipper's invoice, and a letter from the consignee summarizing the facts having direct bearing upon the claim.
21. Overcharge claims must be supported by the original paid freight bill or by the paid prepay voucher.
22. Losses and damages suffered by the public through the media of the truck line carriers' operations must be reported in detail in writing to the terminal company's office immediately for investigation and transmission to the insurance underwriters.
23. Freight charges, if not prepaid, must be paid at the time of delivery of the goods, unless satisfactory credit arrangements are established by the consignees with the carriers.
24. No reconsignment privileges permitting the consignee and destination of shipments en route are in effect.
25. Empty containers such as drums, ice cream tubs, bread boxes and crates are delivered by the carriers to the terminals nearest the owners of the containers, unless other provisions are made in the tariff or rate schedules. Notices of the receipt of the empty containers are mailed to the owners on the day the containers are received at the terminals. Storage charges are assessed after 48 hours have elapsed after the arrival of the containers at the terminals.

(The next article in this series of articles dealing with the operation and management of Cooperative Truck Terminals will be devoted to a discussion of exceptions to the classification and rate schedules).

Day Elder Revises Entire Line

(Continued from page 45)

Engines are of high-speed type and provide power ranging from 65 hp. in the 1¼-tonner to 105 hp. in the heavy duty models. Crankshafts are carried in seven bearings and vibration is further reduced by spring-mounting the engines in the chassis.

The dump and heavy duty chassis are powered by the new Continental series "R" engines. These engines have gear-driven fans, nickel-iron cylinders and builtin governors and oil filters.

The Model 30A bus chassis, which is used also for highspeed long-distance transportation, has an unusual rear spring assembly. The main spring (see illustration) is mounted above the axle housing and an auxiliary spring below. There are two main leaves with spring eyes in the upper spring, one of which is shackled to the auxiliary spring under tension. The light spring serves as a shock dampener when the truck is traveling light; the heavier spring comes into action under heavier loads. A vacuum type booster and gun iron brake drums are features of the braking system of this model. Low center of gravity is obtained by a specially designed frame and underslung rear axle.

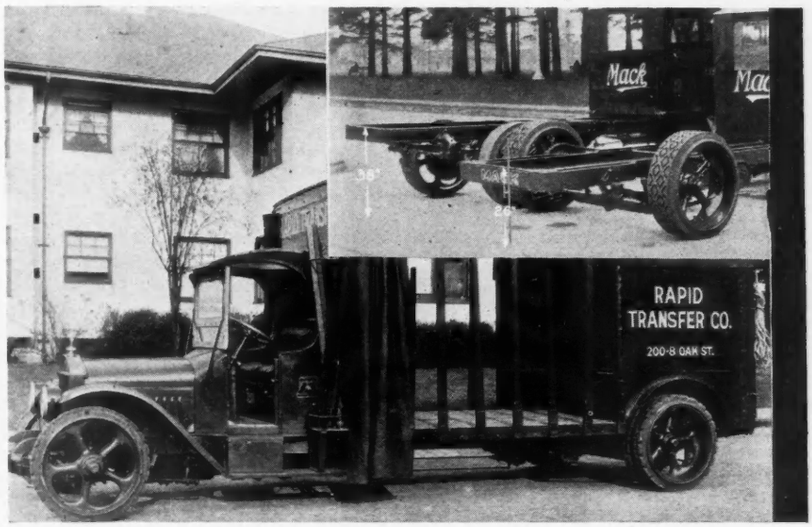
Specification details of four models are given in the accompanying table. Details on models MF 1-ton, K6 4-ton and L6 5-ton are given in the specifications section of this issue, starting on page 65.

Parker Enlarges Quarters

W. J. Parker, organizer and director of trade associations, opened larger quarters at 7 East Forty-fourth Street, New York City, and increased his staff to take care of additional associations or represent organized groups desiring Eastern representation.

LOW CHASSIS FRAME SOLVES LOADING PROBLEM

Reduces Frame Height 12 in. and Increases Capacity With Drop Type Rear Axle and Heavier Springs



A 2½-ton Mack chain-driven chassis converted into a low-framed unit. The inset shows the difference in frame height between regular and converted models

BECAUSE of an increasing number of shipments of heavy materials, improved efficiency in handling became a necessity for the Rapid Transfer Co., Portland, Ore., operator of 30 trucks engaged in the hauling business. The management made inquiries for a truck which would eliminate the lifting of heavy machinery boxes and barrels as much as possible and at the same time obviate the necessity of installing special loading equipment. A 2½-3-ton chain-driven Mack chassis was selected and converted into a low-framed unit by installing a drop-type rear axle, lowering the floor to 26 in. from the ground, and by riveting a special subframe of 6-in. channel iron to the outside of the regular frame to increase platform width.

As a result of this low loading line, heavy materials are now loaded directly onto the truck from the curb without the apparatus and effort required with a standard truck chassis, and the unit is also proving of value in the company's hauling to and from steamships, as material can be loaded quickly and efficiently with a hand truck.

The drop-type rear axle was designed and built in Portland and is strong enough to accommodate a 10-ton load. The conversion also necessitated the use of special jackshafts in order to line up the chains and sprockets properly. These also were locally built. By using an AB bus-type front axle with springs mounted under the axle the front end was underslung. Extra spring leaves were added to front and rear springs, in addition to the installation of five-leaf overload springs. Special front spring horns were employed in order to operate the steering gear and to set the front axle and rear spring brackets further ahead in the chassis.

The 16 x 8 ft. body of this unit is of the covered stake type with special wheel housings. The truck can be loaded from either side as well as from the rear. Stakes are readily removable and when not in use are stored vertically in a corner formed by the cab and front of the body. A sliding tarpaulin operating on a rail inside the roof coping provides protection against the elements. A power winch is installed a little below the surface of the floor to assist in loading and unloading heavy pieces of machinery.

FRONT-WHEEL · DRIVE

(Continued from page 48)

drive axis. There are then two alternatives, in that this unit may be placed either with the engine forward, as in the conventional rear-driven vehicle, in which case the whole powerplant will be located ahead of the front axle; or with the engine at the rear and the final drive forward. This latter arrangement is used in front-driven passenger cars, in which the powerplant is placed behind the driving axle. In commercial vehicles with front drive it would seem that placing the powerplant ahead of the axle is the correct arrangement. It helps to give the desired weight distribution and it makes the powerplant more accessible; besides, for a given length of wheelbase, it leaves much more room for the body.

Probably one reason for the claim that a front-driven vehicle is less given to skidding than a rear-driven one is that with the front drive and the distribution of weight which it necessitates, most of the braking effect can and should be obtained from the front wheels, and front-wheel braking does not produce the familiar rear-wheel skid. Braking has the reverse effect as driving with respect to weight distribution, adding to the weight normally on the front wheels, instead of subtracting from it. Thus in a front-driven vehicle when the brakes are fully applied, a good deal more than one-half of the total weight rests on the front wheels, and the latter are much more effective for braking than the rear wheels. Service braking, therefore, may be confined to the front wheels and be more effective than rear wheel braking on an ordinary vehicle; or, if four-wheel braking is considered desirable, the force of application of the rear brakes may be so limited that their locking is a very remote possibility. It is the locking of the rear wheels by the brakes that is responsible for most skids.

If front drive is combined with independent springing of the front wheels, the front wheel brakes will be applied to drums at the center housing instead of to drums on the wheels. This further reduces the unsprung weight at the front. In the Vomag detachable front driving unit, illustrated herewith, there is a large single brake drum at the rear of the center housing to which a pair of outside shoes are applied. The drum has fan-shaped spokes which induce strong circulation of air and thus keep it cool.

AIRPORT MARKET

(Continued from page 17)

contact the airport manager. Aviation is so new in municipal government that airport managers have more influence on conduct of airports than many other officials over their respective departments.

An important part of the activity of an airport centers about the airplane operating companies, including air mail contractors, transport line operators and aviation schools. These companies are using trucks for general utility work. Hangars usually are several miles from down-town and supplies of all kinds are carried to and from town by truck. Transport companies carry passengers from the hotel section of cities to hangars in small buses. An example of another use of buses is that at Hoover Field in Washington, D. C., where sightseers coming to the field in buses, who decide to take a plane ride, are taken in a small bus to their hotels or the next stopping place on their sight-seeing trips.

Many of the larger transport companies and air mail contractors carry supplies, parts and spare engines from one airport to another by truck. In most instances one airport is a base from which supplies are distributed and at which major repairs are made.

Trucks which carry welding and other repair equipment are useful in making repairs of crack-ups which take place off the field or at distant airports. A typical case from the experience of a large air mail contractor will show the value of this truck service. A plane cracked up at an airport about 150 miles from headquarters. The field manager examined the plane carefully, made out a requisition for the necessary material for repairs and asked that a truck with a welding outfit, tools and mechanics be sent to make the repairs in the hangar. The job was completed in a day and a half and the plane put back in service. If the truck had not been used it would have been necessary to dismantle the plane, ship it to the base shop, make repairs and reassemble it, requiring five days.

The U. S. Army Air Service has developed a salvage truck for off-field crack-ups. The design was worked out at Wilbur Wright Field, Dayton, Ohio, and it ineorporates many features founded upon experience in this service. Although detailed description is not available at this time it is expected to be released shortly.

Although standard commercial trucks are okay for most airport services there is need for a vehicle of a special type. The truck industry can render aviation a worthwhile service by designing a special truck chassis for hauling airplanes into and out of hangars and to and from the line at airports, in the opinion of several aviation executives who are in close touch with airport management. One of them who regularly visits scores of airports said, "The engines in a trimotor ship cost about $25,000 and to me it seems all wrong to use this power to move the ship about on the field and to shove it in and out of the hangar by brute strength when some sort of power unit could do the trick." Another stated that an airplane, out of its natural element, is awkward on the ground and moves only by the expenditure of power which is out of all proportion to the results obtained.

A small plane can be moved on firm ground by two or three men; larger planes, of course, require more. The tail skid is lifted and placed on a two-wheel dolly which is steered like a garage floor jack. Many of the larger planes are equipped with wheels on the tail skid and do not require a dolly but do require towing.

This towing truck chassis, to summarize the suggestions for this unit made by the executives previously mentioned, should have a short chassis, small turning radius, low speed gearing—probably an auxiliary transmission providing a wide range of gearing, oversize balloon tires, and be equipped with a power lifting arm of some kind for raising a tail skid and holding it while towing a plane. If the lifting arm could be arranged also to lift the two front landing wheels off the ground so that the plane could be moved sideways for maneuvering in close quarters, so much the better, in their opinion. Perhaps it would be possible to add to this towing truck a demountable crane and winch for changing engines, in which case the combination surely would make a hit with airport operators.

Two Moreland six-wheel trucks were used for handling Boeing bombers during the National Air Races in Los Angeles. Platforms were equipped with sockets to hold tail skids. This was a heavy duty tow unit, but it shows that a beginning has been made in meeting this need of airports.

Traffic to and from airports naturally increases with growth of business at the fields. Although accessibility to a city is considered in locating airports the primary consideration obviously is the suitability of the site for airplane use. As a result, many airports are situated outside the ordinary delivery zones of the adjoining cities. The personnel on duty at a busy airport, including staff, ground crews, attendants at refreshment stands and others, forms quite a large group. To supply their many and varied needs commodities of all kinds must be carried much further than ordinarily is found necessary. This situation calls for some extension of delivery facilities of merchants, and others, catering to airport customers. It seems likely that in many instances truckmen will inaugurate regular delivery service to airports and offer a form of consolidated delivery to merchants.

Passenger traffic is another problem. No doubt city trolley or bus service or both will be extended to airports in many instances. In others the airport will set up regular transportation, connecting with existing lines. It seems unlikely that airports will long continue without regular transportation facilities.

The future of aviation is a subject about which those best informed hesitate to speak. At present not only is the growth rapid but the rate of progress is increasing. On March 1 of this year there were 449 municipal airports, 417 commercial airports and 311 Department of Commerce intermediate airports. The number of proposed airports at the same time was 921 and many other municipalities were considering building airports.

Air express service furnished by the Railway Express Agency, Inc., shows a satisfactory growth. Noteworthy by those thinking of the future of commercial aviation is an increase in the regular use of air express service.

The next logical step in extending air transportation is that of carrying freight by airplane. All sorts of freight has been delivered by airplane in emergencies. But obviously air freight traffic must be founded upon regular service rather than an occasional spectacular delivery.

An outstanding example of regular air freight operation is that of the Ford air lines making daily flights connecting the factory in Dearborn with branches at Buffalo and Chicago. Total freight carried up to May 4, 1929, amounted to 7,010,239 lb. and mileage totaled 1,143,325. There is ample reason to believe that this operation is only the forerunner of others which will serve individual industries and still others which will become common carriers of the air. As in the case of the Ford operation all such shipments will start and complete their journeys by truck and the truck journey will be much longer than in the case of shipments made by rail, which in fact may be made from a side track or by a short trip to a freight station.

The pressure under which the staff of the Aeronautics Branch of the Department of Commerce is working is perhaps indicative of the present state of aviation. Overtime is the rule, rather than the exception. Probably no organization is in closer touch with the airport building and developing program of this country than the Division of Airports and Aeronautic Information of the Department. Here midnight oil is being burned and thousands of miles traveled by air in an effort to keep up with an ever-growing amount of work. Keeping this situation in mind it is not difficult to predict that the number of airports in the United States five years from now will be many times the present number. Wildly hazarding a guess,

(Turn to page 60, please)

Sterling Model DC19

Capacity
4½ to 5½ tons

Sets the Pace for Power and Stamina!

A light chain drive truck—ruggedly constructed for pulling the big loads—has 7-bearing crankshaft, full-pressure lubrication, multiple disc clutch and 4-speed transmission. Powered by a husky 6-cylinder 66 H. P. Sterling engine with the well known REDHEAD Ricardo Head. A worthy addition to the long line of Sterling chain drive models, and a big money maker for progressive dealers. Let us tell you all about our liberal dealer selling plan.

STERLING MOTOR TRUCK CO., *Milwaukee, Wis.*

30 Factory Owned Branches — 41st Avenue and Rogers Street — Dealers in Principal Cities

Airport Market

(Continued from page 58)

shall we say in the neighborhod of 5000?

Improvement of airports already in use goes on apace with the building of new airports. More hangars, more runways, larger fields, better shops, erection of headquarters buildings, improved drainage and established transportation are the order of the day. Airports which were considered models last year are being changed to keep up with advanced ideas.

Colonel Charles A. Lindbergh believes that no airport in the United States today may be considered a model for the future. He recently told a joint committee of Congress that model fields would be a mile square with shop facilities, lighting, restaurants and hotels.

As an airport expands and offers better facilities for air traffic its need of trucks increases. A general utility truck which also serves as the field gasoline buggy may suffice when a partially completed airport is first opened. But the need of more labor-saving equipment soon becomes manifest and more trucks are used.

This situation is important to those interested in selling trucks at airports. During the construction period an airport gives little indication of its future possibilities. As a host of airports are in that stage today it is necessary to look ahead a bit. As an aid in picturing the future of some airports it is well to consider one of the more advanced airports. Cicero Airport, Chicago, is recognized as one of the most active fields in this country. Here two additional hangars for transient planes are being built and will be completed by August. At that time two more trucks will be put in service for making minor repairs to the field.

The frame of mind of those actively engaged in commercial aviation is important to those who would sell them trucks. The period of expansion, almost a boom, is at hand. Almost overwhelmed with work, those in the midst of activity are wrapped up in the aviation problems of the day. They have little time to look to the future or to consider whether or not that which is being done is being done efficiently. One and all welcome any help in doing the work which must be done. That trucks may furnish some of this help has occurred to some, but not to all.

Study of transportation needs of a prospect is of particular value in the case of airport excutives. They demand short, informative and clear-cut presentation of sales facts. A salesman preparing such a presentation should supplement the information here given with a personal investigation. There is a lot to be seen at an airport but an experienced truck salesman will discover many things to his benefit, which the casual visitor overlooks.

There will be some change in methods when the present "double-timing" days are over, in the opinion of not a few executives who are in a position to prophesy with assurance. One of them stated the situation while talking about the need of a truck for towing airplanes to hangars. "In war time we had an army of men to call on to move airplanes. Later, and for several years, there always was a crowd of interested spectators to lend a hand when a plane was taken out of a hangar or returned. But those times have passed. Aviation is a business now. It is adopting business methods including, of course, labor-saving equipment of all kinds." Is there any truck salesman who is not ready at all times to prove the labor-saving possibilities of trucks?

The truck industry has a good opportunity to assist in the development of commercial aviation. If this is done it will not be the first time that the truck industry has helped another industry—to the profit of both.

Open Ice Bodies

(Continued from page 25)

bars are provided for placing across the width of the body. Braced by any pair of posts these bars hold the cakes in place as the load diminishes. The scale arm is supported by the top edge of the right panel.

Hercules Products, Inc., Evansville, Ind., offer both stock and custom-built ice bodies for various makes and capacities of chassis. While this company specializes in wood bodies, it can also supply bodies built of 10-gage steel electrically welded throughout at an additional cost (Fig. 3).

The wood body is 95 in. long and 46 in. wide, but the side panels can be obtained in either 30 or 36 in. heights. It is built entirely of hardwood except the panels, which are poplar. The weight is approximately 610 lb. As the illustration reveals (Fig. 4) the Hercules body is supported on five cross-members. Side panels are bolted to four posts, which are strapped and bolted to the two front and two rear cross-members. The two rear posts are further reinforced by two diagonal braces. The scale bar is carried on the inside of the left panel and close to the top edge.

The ice conveying body marketed by the Collings Carriage Co., Inc., Camden, N. J., provides a loading space, 98 in. long, 47 in. wide and 40 in. high (Fig. 2). It is built of hardwood. Side panels are wood with a lining of felt and an outside sheathing of steel to provide a smooth surface for lettering and to prevent splitting. To prevent shifting cakes of ice from bruising or damaging the panels horizontal iron rails are fitted on the inside. Floors are made double thick for severe duty and to withstand the weakening action of water.

As the illustration discloses the body is mounted on four cross-members. Panels are supported by four posts rigidly joined to the cross-members by long diagonal irons strapped to the top of the posts and bolted to the cross-members after passing through the running boards. A short diagonal brace is employed at the rear post. The body is further reinforced by irons at each post and along the top and bottom edges of the panels. Top rails are mounted on the panels on which a waterproof cover slides. The front end of the cover is fastened permanently and the sides are long enough to hang over the panels. Another curtain is provided for the rear which meets the top of the end-gate. Made in two sections the end-gate is hinged so that each section may be dropped separately. A folding rear step and scale bar are provided.

Republic Has New Line

(Continued from page 39)

spring shackling, with the front shackle bracket pin located above the frame side rail, and the rear shackle bracket also extending upward rather than downward.

New and larger in size, the Model F-1, rated at 12,000 lb., replaces the former Model 50. It is offered in three wheelbases, providing for 9, 11 and 12-ft. inside body lengths. It is also equipped with a 55 hp. six-cylinder engine.

Replacing the Model 60 is the new Model H-1, rated at 15,000 lb. That it is a new truck is indicated by the facts that the engine is larger, that larger tires are used, that it has a four-speed transmission, more plates in the clutch, and is fitted with four-wheel brakes. The engine in this model develops 75 hp. at 2400 r.p.m. Three wheelbases, for 10, 12 and 14 ft. bodies, are available.

Characteristic of the new 18,000 lb. Model L-1, whose nearest comparable predecessor was the 65, is its new distinctive radiator, 36 x 8 tires, dual at the rear, and heavy springs. It has a double reduction, full floating Eaton axle with an overall low gear reduction of over 48 to 1, providing excellent tractive power with its 75 hp. engine. Its transmission is also of the four-speed type, and mechanical four-wheel brakes, supplemented by an emergency brake on the propeller shaft, are a further feature. With its two wheelbases, 14 and 16-ft. bodies can be used.

The M-1, largest in the LaFrance-Republic line, with a straight rating of 20,000 lb., of which approximately 6600 lb. is for the chassis, is designed for all types of transportation, including the heaviest duty for that total weight. Its Waukesha engine, governed at 2250 by a built-in flyball type of governor, gives a corresponding road speed of around 30 m.p.h. on direct, but an overspeed gear in the five-speed Brown-Lipe transmission is provided for higher road speeds. The transmission also has two reverse gears, there being an auxiliary shift lever. Double springing at the rear, with 36 x 8 pneumatic tires, dual at the rear mounted on cast steel spoke wheels, as on all the other models, provides greater load safety than on any previous comparable Republic model.

Commercial Car Specifications—Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars

Those Chassis Which Are Sold and Recommended for Bus Use Are Designated in the Following Table by Reference Sign (‡) in Front of the Name

* Changes
† New Models

For Motor Bus Chassis See Pages 76 and 77

(Where prices are not given it is because we have been unable to get them from authoritative sources)

Key of abbreviations, page 78

Trade Name and Model	General: Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size: Front (inches)	Tire Size: Rear (inches)	Engine: Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
1000 Pounds																																
*Chevrolet Int. Com	400	107	107	B 4.50/20	B 4.50x20	Own	6-3 7/8x3 3/4	26.3	H	PG	Non	Har	Car	P	D-R	D-R	P. Own	Own Int.	U	3	Own	Own Int.	S	1/2	3.82	12.68	E*	Own Int.	Own	.....	26 5/8	1825
*Dodge Brothers	545	109	109	B 29x4.75	B 29x4.75	Own	4-3 5/8x4 1/4	21.0	L	PC	Non	McC	Car	V	D-R	N-E	P. Roc	Own	U	3	Own	Own	S	1/2	4.7	14.28	G*	Own	Gem	.....	.....	1900
Durant Com. Ch	495	107	.....	B 28x4.75	B 28x4.75	Con	4-3 5/8x4 1/4	18.2	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	A	3	Spi	Own	S	1/2	4.87	16.16	E*	Own	Own	.....	.....	1650
Fargo Packet	595	.....	.....	B 4.75/20	B 4.75/20	Own	6-3x4 1/2	21.6	L	FP	Non	Own	Car	V	D-R	D-R	P. Own	Own	U	3	M.M.	Pontiac	S	1/2	4.42	14.67	G*	Pontiac	Jac	.....	.....	1885
*General Motors T-11	625	109 5/8	.....	B 5.00/19	B 5.50/19	Pontiac	6-3 1/8x3 7/8	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Pontiac	U	3	Spi	Sal	S	1/2	4.7	14.63	E†	Sal	Ros	.....	.....	2290
Reo Speed Wagon Jr	895	115	.....	B 28x5.25	B 28x5.25	Con 16E	6-3 1/2x4	27.3	L	PC	Non	Har	Sch	V	N-E	N-E	P. B&B	W-G	U	3	Spi	Tim	S	1/2	5.12	15.6	H*	Tim	Gem	.....	.....	.....
Stud. Erskine 52B	675	109	.....	B 30x5	B 30x5	Con 9F	6-2 3/4x4 1/2	18.2	L	PC	Non	Lon	Sch	V	D-R	D-R	D. Lon	W-G	U	3	Spi	Tim	S	1/2	4.55	14.7	H	Own	Own	.....	.....	1659
Whippet 96A	380	103 1/4	103 1/4	B 28x4.75	B 28x4.75	Own	4-3 1/2x4 3/4	15.6	L	PC	Non	Own	Til	V	A-L	A-L	P. B&B	Own	U	3	M-M	Own	S	1/2								
1500 Pounds																																
Dodge Brothers	775	120	120	B 31x5.25	B 31x5.25	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	Own	U	3	Spi	Own	S	1/2	5.1	17.4	G†	Own	Han	75 1/4	39 3/4	2510
Dodge Brothers	830	120	120	P 30x5	P 30x5	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	Own	U	3	Spi	Own	S	1/2	5.1	17.4	G†	Own	Han	75 1/4	39 3/4	2630
Dodge Brothers	790	120	120	P 33x4 1/2	P 33x4 1/2	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	Own	U	3	Spi	Own	S	1/2	5.1	17.4	G†	Own	Han	75 1/4	39 3/4	2535
Fargo Clipper	595	.....	.....	B 5.50/18	B 5.50/18	Own	6-3 1/2x4 3/4	23.4	L	FP	Non	Own	Str	V	D-R	D-R	P. Own	Own	U	3	Own	Own	S	1/2	.....	.....	E†	Own	.....	.....	.....	3175
Int. Harvester Spec. Del	.....	124	124	B 30x5.25	B 30x5.25	Wau XA	4-3 1/2x4 1/2	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	Roc	M.M.	U	3	M-M	Eat 502	S	1/2	4.45	15.1	H*	Eat 200F	Ros	86 5/8	50 5/8	2200
Kleiber	1170	121	.....	B 30x5.50	B 30x5.50	Con	6-2 7/8x4 3/4	19.8	L	PC	Non	Fed	Str	V	D-R	D-R	B-L	B-L 20	U	3	Spi	Tim 52604	B	1/2	4.9	.....	H	Tim 11703H	Ros	84	86	2400
Rugby Fast Mail	725	110	.....	B 29x5.00	B 29x5.00	Con	6-2 7/8x4 3/4	19.8	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	U	3	Spi	Own	S	1/2	4.45	14.8	E*	Own	Own	.....	.....	1760
Stewart Buddy	895	118	118	B 30x5.50	B 30x5.50	Lyc	6-2 7/8x4 3/4	19.8	L	PC	Non	Own	Str	V	D-R	D-R	D. Own	Own	U	3	Own	Own	S	1/2	5.6	17.3	A	Own	Gem	77 15/16	40 7/16	2694
1 Ton																																
†Acme 17	.....	136	.....	P 30x5	P 30x5	Con 20L	6-2 7/8x4 3/4	18.2	L	PC	Non	Per	Til	V	A-L	A-L	P. B&B	Ful WO	U	4	Blo	Tim 52000H	S	F	5.83	35.9	G	Tim 11703H	Ros	108	58	2650
†Acme 18	.....	125	.....	P 32x6	P 32x6	Con 29L	6-2 7/8x4 3/4	18.2	L	PC	Non	Per	Til	V	A-L	A-L	P. B&B	Ful WO	U	4	Blo	Tim 52000H	S	F	5.83	35.9	G	Tim 11703H	Ros	96	47	2650
Acorn 20P	1185	132	.....	B 32x6.00	B 32x6.00	Con 15C	6-3 1/2x4 9/16	27.3	L	PC	Non	Chi	Zen	V	A-L	A-L	D. Ful	Ful DU10	U	3	Spi	.....	B	1/2	4.5	.....	.....	.....	Lav	.....	.....	3500
Betz J3	.....	140	Opt	P 32x6	P 32x6	Bud WTU	4-3 3/4x5 1/4	22.5	L	PC	Mon	Chi	Zen	V	Bos-A	A-L	D. Ful	Ful	U	3	Pet	Tim	B	F	.....	.....	E	Tim	Ros	.....	.....	3250
Betz J3-6	.....	153	.....	P 32x6	DP32x6	Bud HS6	6-3 3/8x4 1/2	27.3	L	PC	Mon	Chi	Zen	V	A-L	A-L	D. Ful	Ful	U	3	Pet	Tim	B	F	.....	.....	E	Tim	Ros	.....	.....	3500
Biederman	.....	138	.....	P 30x5	P 30x5	Con 8R	6-3 3/8x4 1/2	27.3	L	PC	Non	Own	Zen	G	D-R	A-L	D. B-L	B-L 31	U	3	Spi	Cla	B	1/2	5.5	27.	A†	Shu	Ros	92	.....	3200
*Commerce 20Y	1600	142	.....	P 30x5	P 30x5	Bud HS6	6-3 3/8x4 1/2	27.3	L	FP	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Col 54028	S	F	5.1	25.5	G	Col 5530	Han	103 1/2	63	3900
Day-Elder MF	1345	131	131	P 30x5	P 30x5	Con 16C	6-3 3/8x4 1/2	27.3	L	FP	Non	G&O	Zen	V	D-R	D-R	D. B-L	B-L 20A	U	3	Spi	Tim 52000H	B	F	5.83	25.14	A	Tim 11703H	Ros	103 1/2	56	3100
Denby 41	.....	128	.....	P 34x5	P 34x5	Her O	4-4x5	25.6	L	PC	.....	Lon	Zen	G	A-L	A-L	D. Ful	Ful	U	3	U-P	Col 54005	S	3/4	5.8	23.2	...	Con	Ros	.....	.....	3315
Diamond T151	1095	132	.....	P 30x5	P 30x5	Con 18E	6-3 3/8x4	27.3	L	PC	Non	G&O	Zen	G	A-L	A-L	D. Cov	Cov	U	3	U-P	Col	S	1/2	5.12	18.6	G†	Col 3203	Ros	96	.....	3200
Dodge Brothers	995	130	130	P 30x5	P 30x5	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.1	23.76	G†	Own	Han	85 1/4	49 3/4	2920
Dodge Brothers	1030	130	130	P 33x5	P 33x5	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.67	26.40	G†	Own	Han	85 1/4	49 3/4	2950
Dodge Brothers	1110	140	140	P 32x6	P 32x6	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.7	26.40	G†	Own	Han	95 1/4	59 3/4	2995
Dodge Brothers	1040	130	130	P 32x6	P 32x6	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.7	26.40	G†	Own	Han	85 1/4	59 3/4	2965
Dodge Brothers	1065	140	140	P 30x5	P 30x5	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.7	26.40	G†	Own	Han	95 1/4	59 3/4	2955
Dodge Brothers	1100	140	140	P 33x5	P 33x5	Own	6-3 3/8x3 7/8	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	1/2	5.67	26.40	G†	Own	Han	95 1/4	59 3/4	2985
*Fargo	795	133	.....	B 5.50/20	P 32x6	Own	6-3 1/2x4	23.4	L	....	Non	Own	Str	V	D-R	D-R	.....	.....	U	4	U-P	Cla	S	1/2	5.67	.....	E†	.....	Han	96	49	.....
*Federal 3F6	995	127	139	P 30x5	P 30x5	Con 34L	6-2 7/8x4 3/4	19.8	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own	U	3	Pet	Cla B364	B	1/2	6.38	23.27	G†	Cla F208	Gem	95	51	2800
*Federal 3FW	1095	127	139	P 30x5	P 30x5	Wau XA	4-3 1/2x4 7/8	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own	U	3	Pet	Cla B364	B	1/2	6 38	23.27	G†	Cla F208	Gem	95	51	2725
Fisher Jr. Express	.....	140	140	P 30x5	P 30x5	Con 31L	6-2 7/8x4 3/4	19.8	L	FP	Non	Lon	Zen	V	A-L	A-L	. Lon	M.M L U	U	3	Blo	Tim 52000H	S	1/2	5.83	.....	E	Tim 11703H	Ros	108	73 1/2	.....
*Garford 20Y	1600	142	.....	P 30x5	P 30x5	Bud HS6	6-3 3/8x4 1/2	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Col 54028	S	F	5.1	25.5	G	Col 5530	Han	103 1/2	63	3900
*General Motors T-19	895	127 3/4	145 3/4	P 5.50/20	P 32x6	Pontiac	6-3 1/8x2 7/8	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	1/2	6.14	34.11	G*	Tim 11710N	Jac	91	52 1/4	2800
Gramm 263N	1485	133°	174	P 30x5	P 32x6	Lyc S	6-3 1/4x4 1/2	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Cov	Cov	U	3	Blo	Eat 1002	S	1/2	5.66	22.6	A*	Col 5300	Ros	97	57 3/8	3585
Gramm-Bernstein 10	.....	129	146	P 30x5	P 30x5	Lyc CT	4-3 3/4x5	22.5	L	PC	Non	Own	Zen	G	A-L	A-L	D. Mun	Mun T23	U	3	Pic	Sal A	B	3/4	5.85	23.08	B*	Sal D	Ros	97	57 3/8	3020
Hahn SJ4	.....	138	138	P 30x5	P 30x5	Her O	4-4x5	25.6	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L 30	U	3	Pet	Eat 1002	S	1/2	5.33	21.8	A	Eat 750	Ros	103	63 1/2	3100
Hahn SJ6	.....	138	144	P 30x5	P 30x5	Bud HS6	6-3 3/8x4 1/2	27.3	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L 30	U	3	Pet	Eat 1002	S	1/2	5.33	21.8	A	Eat 750	Ros	103	66	3200
Indiana 200	.....	137	137	P 30x5	P 32x6	Wis F	6-3 1/4x4 1/4	25.3	H	PC	Non	Lon	Zen	V	A-L	A-L	P. B&B	B-L 20A	U	3	Spi	Col 36000	S	1/2	5.12	21.3	G*	Col 3200	Ros	96	56	3435
Int. Harv'tr 6 Sp. Spec	.....	124	124	P 30x5	P 30x5	Wau XA	4-3 1/2x4 1/2	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	. Roc	M.M.	U	3	M.M.	Eat 1124*	S	1/2	5.29	52.6	H*	Eat 430F	Ros	86 5/8	50 5/8	2430
Kissel	.....	140	.....	P 34x5	P 34x5	Own	4-3 7/8x5 1/2	24.1	L	SP	Non	McC	Str	V	D-R	D-R	D. W-G	W-G T38L	U	3	Spi	Tim 6258	W	F	5.16	18.88	A*	Tim 1452	Ros	.....	.....	3780
Kleiber	1450	140	140	P 30x5	P 30x5	Con	6-3 3/8x4	27.3	L	PC	Non	Own	Str	G	D-R	D-R	D. B-L	B-L 20	U	3	Spi	Tim 5260	B	1/2	5.36	.....	B†	Tim 12307	Ros	100	64	3000
Larrabee 20	.....	143	160	P 30x5	P 30x5	Con 16C	6-3 3/8x4 5/8	27.3	L	PC	Non	Pet	Zen	G	D-R	D-R	D. B-L	B-L	U	3	Spi	Col	B	1/2			E†	Col	Ros	96	54 3/8	3745
Le Moon H10	1500	130	140	P 32x6	P 32x6	Con 16C	6-3 3/8x4 5/8	27.3	L	FP	Non	Chi	Str	G	D-R	DJ	D. B-L	B-L 20	U	3	Spi	Cla B365	B	1/2	5.6	18.7	B	Tim 12300	Ros	96	66	3000
Luedinghaus	.....	130	172	P 30x5	P 30x5	Wau V	4-4x5	25.6	L	PC	Non	Own	Zen	G	Eis	A-L	D. Ful	Ful SU10	U	3	.....	Tim 5260	B	1/2	.....	.....	A*	Shu 5410	Ros	120	72	2850
Relay 20B	1700	142	.....	P 30x5	P 30x5	Bud HS6	6-3 3/8x4 1/2	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Own 20	R	F	5.14	25.7	E	Col 5530	Han	103 1/2	63	4100
Reo DA	995	123	138	P 30x5	P 30x5	Con 16E	6-3 3/8x4	27.3	L	PC	Non	Har	Sch	V	N-E	N-E	P. B&B	W-G	U	3	Pet	Own	S	1/4	5.22	18.47	E†	Own	Ros	.....	.....	2755

Key of abbreviations, page 78

Trade Name and Model	General: Chassis Price	General: Standard Wheelbase (inches)	General: Maximum Wheelbase furnished	General: Tire Size: Front (inches)	General: Tire Size: Rear (inches)	Engine: Make and Model	Engine: Number of Cylinders Bore and Stroke	Engine: N.A.C.C. Rated H.P	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
1 Ton—Cont'd																																
*Reo DC	1075	138	.....	P 30x5	P 30x5	Con 16E	6-3⅜x4	27.3	L	PC	Non	Har	Sch	V	N-E	N-E	P. B&B	W-G	U	3	Pet	Own	S	½	5.22	18.47	E†	Own	Ros	.....	.....	2850
†Republic Fleetmaster	.....	144	.....	B 6.00 20	P 32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Cla	B	½	5.6	28.3	G†	Cla	Ros	111	62½	3300
Rugby Exp	975	128	.....	P 30x5	P 30x5	Con	6-2⅞x4¾	18.2	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	A	4	Spi	Sal	S	½	5.39	22.4	E*	Sal	Gem	.....	.....	2510
†Selden 7	.....	124	124	P 30x5	P 30x5	Con 29L	6-2⅞x4¾	19.8	L	FP	Non	Own	Zen	G	D-R	A-L	P. B&B	Ful	U	3	.....	Tim 52000	S	S	5.8	.....	G	Tim 11703H	Ros	96	.....	3100
Service 20Y	1600	142	.....	P 30x5	P 30x5	Bud HS6	6-3⅛x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Coi 54028	S	F	5.1	25.5	E	Col 5530	Han	103½	63	3900
Stewart Buddy	995	128	138	P 30x5	P 30x5	Lyc	6-2⅞x4¾	19.8	L	PC	Non	Fed	Str	G	D-R	D-R	D. W-G	W-G	U	3	Spi	Own	S	½	5.66	17.1	G*	Own	Gem	89⅛	50¾	2806
*Studebaker GD-N	1095	146	.....	P 30x5	P 30x5	Own	6-3½x4½	27.3	L	PC	Non	Lon	Str	O	D-R	D-R	P. Lon	Own	U	3	Spi	Sal	S	½	4.64	13.7	G*	Own	Ros	90⅝	62⅝	2940
United 16	.....	122½	.....	P 32x4½	P 32x4½	Wau X	4-3½x4½	19.6	L	PC	Non	Per	Zen	G	A-L	A-L	P. B&B	W-G T 71	U	3	Blo	Cla B-365	S	½	5.66	17 0	A	Shu 5400	Ros	96	5"	2400
United 16C	.....	122½	.....	P 32x4½	P 32x4½	Con 29L	6-2⅞x4¾	19.8	L	PC	Non	Per	Til	V	A-L	A-L	P. B&B	W-G T 71	U	3	Blo	Cla B-365	S	½	5.66	17.0	A	Shu 5400	Ros	94	55	2500
§U. S. U.	1850	138	162	P 34x5	P 34x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	Own	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Cla B-501	B	½	6.25	30.0	A*	Shu 350	Lav	108	70	3400
Wachusett S	.....	152	152	S 34x5	S 34x5	Con 8R	4-3⅜x5½	27.3	L	PC	Non	G&O	Zen	V	Bos-A	Bos-A	D. B-L	B-L 30	U	3	Spi	Tim 5511	S	½	5.5	22.5	...	Tim 1250	Ros	120	84	3300
White 15B	1545	133½°	150	P 30x5	P 30x5	Own GKA	4-3⅜x5½	22.5	L	PG	Non	Own	Zen	V	L-N	L-N	P. Own	Own 15	A	4	Spi	Own 15B	S	½	5.36	18.6	A*	Own 15	Own	96⅞	57¾	3242
White 60	1850	138°	157	P 30x5	P 30x5	Own 2A	6-3½x4½	29.4	L	FP	Non	Own	Zen	V	D-R	D-R	P. Own	Own 3B	U	3	Spi	Own 4C	S	½	4.72	17.84	G†	Own 4D	Han	112	58¾	3562
*Willys-Knight T-100	895	130	130	P 30x5	P 30x5	Own	6-2⅛x3⅞	20.7	X	PC	Non	Own	Til	V	A-L	A-L	P. Roc	W-G	U	3	M.M.	Tim 5260	B	½	6.14	26.22	H*	Own	Own	89	51	2775
†World	.....	143	151	P 32x6	P 32x6	Lyc 4SL	6-3¾x4½	33.7	L	PC	Non	Mod	Zen	V	A-L	A-L	P. Lon	Ful	U	4	Blo	Tim	S	F	5.83	36.0	G†	Tim	Han	108	60	3600
1¼ Ton																																
Atterbury 26B	.....	132	132	P 30x5	P 30x5	Lyc S	6-3¼x4½	25.3	L	PC	Non	Fed	Zen	G	A-L	A-L	D. B-L	B-L	U	3	Blo	Cla	B	½	5.6	18.7	A*	Shu	Gem	98½	55	3350
Biederman	.....	154	154	P 32x6	P 32x6	Con 8R	6-3⅜ 4¼	27.3	L	PC	Han	Own	Zen	G	D-R	A-L	D. B-L	B-L 31	U	3	Spi	Cla	B	½	7.2	35.0	A*	Shu	Ros	104	.....	3600
Brockway Junior	.....	130	130	P 30x5	P 30x5	Wis C	4-3¾x5	22.5	L	PC	Non	G&O	Zen	V	A-L	A-L	P. B&B	B-L 20	U	3	Spi	Col 36001	B	½	5.12	20.84	G*	Col 3204	Ros	96	56	3100
Brockway JF	.....	137	.....	P 30x5	P 30x5	Wis F	6-3¼x4¼	25.3	H	PC	Non	G&O	Zen	V	A-L	A-L	P. B&B	B-L 20	U	3	Spi	Col 36001	B	½	5.12	20.84	G*	Col 3205	Ros	.....	.....	3450
Clinton 20B	.....	150	Opt.	P 30x5	P 30x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	Per	Zen	V	Spl	D-R	D. B-L	B-L 31	U	3	Blo	Cla B501	B	½	6.28	29.5	A*	Shu 5405	Ros	Opt.	Opt.	3750
Corbitt 620	.....	137	150	P 32x6	P 32x6	Con 18E	6-3⅜x4	27.3	L	FP	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 20	U	4	Spi	Tim 52000H	S	F	5.83	29.15	G†	Tim 11703H	Ros	108	64	3380
Fageol 100	1300	156°	168	B 32x7.00	B32x7.00	Wau XA	4-3½x4½	19.6	H	PC	.....	Lon	Zen	V	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	½	5.57	27.85	G	Tim 11703H	Ros	120	85½	3675
General Motor T-19	975	127¾	145¾	P 30x5	DP30x5	Pontiac	6-3⅛x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 52000	B	F	5.57	27.85	G	Tim 11703H	Ros	120	85½	3675
Gotfredson B24	.....	131	160	P 30x5	P 30x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	MeC	Zen	V	D-R	D-R	P. B&B	B-L 20A	U	3	Spi	Tim 52000H	B	½	5.83	24.19	G	Tim 11710H	Jac	91	52¼	2875
Gramm 263 N	1485	133°	174	P 30x5	P 32x6	Lyc S	6-3¼x4½	25.3	L	PC	Non	Own	Zen	G	A-L	A-L	D. Cov	Cov	U	3	Blo	Eat 1002	S	½	5.83	24.19	G	Tim 11704H	Ros	.....	.....	3200
Gramm-Bernstein 10	.....	129	146	P 30x5	P 32x6	Lyc CT	4-3¾x5	22.5	L	PC	Non	Own	Zen	G	A-L	A-L	D. Mun	Mun T23	U	3	Pie	Sal A	B	¾	5.66	22.6	A*	Col 5300	Ros	.....	.....	3585
Indiana 11X	.....	120	120	P 30x5	P 32x6	Her OX	4-4x5	25.6	L	PC	Non	MeC	Str	G	A-L	A-L	P. B-L	B-L 31	U	3	Spi	Cla B365	S	½	5.1	24.48	A	Shu 5405	Ros	97	57⅜	3020
Indiana 11	.....	129½°	165½	P 30x5	P 32x6	Her OX	4-4x5	25.6	L	PC	Non	MeC	Str	G	A-L	A-L	P B&B	B-L 31	U	3	Spi	Cla B365	S	½	5.1	24.48	A	Shu 5405	Ros	99	54½	3500
*Int. Harvester S-24	.....	130		P 30x5	P 30x5	Lyc CT	4-3¾x5	22.5	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	U	3	M.M	Eat 1002	S	½	5.33	21.3	H*	Eat 430F	CAS	94	51½	3200
*Int. Harvester S-26	.....	130		P 30x5	P 30x5	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	U	3	M.M	Eat 1002	S	½	5.33	21.3	H*	Eat 430F	CAS	94	51½	3250
*Moreland Ace	1195	134	134	B32x6.75	B32x6.75	Con 34L	6-2⅞x4¾	19.8	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 20	U	4	Cle	Tim 52000H	S	F	5.83	29.17	G†	Tim 11703H	Ros	104	56	3000
†Republic Fleetmaster	.....	144	.....	B 6.00 20	P 32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Cla	B	½	5.6	28.3	G†	Cla	Ros	111	62½	3300
Republic 75-6	.....	128½	.....	P 30x5	P 30x5	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	½	5.33	21.3	A*	Eat	Han	98	53¼	3150
Republic 75	.....	124°	.....	P 30x5	P 30x5	Lyc CT	4-3¾x5	22.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	½	5.33	21.3	A*	Eat	Han	98	53¼	3000
†Sterling DB7-64-18E	.....	137	150	P 32x6	P 32x6	Con 18E	6-3⅜x4	27.3	L	FP	.....	Per	Zen	V	.....	D-R	D. B-L	B-L 20	U	4	Har	Tim 52000H	B	S	5.82	29.13	G	Tim 11703H	Ros	104	60	3355
Stewart 16	1295	130	160	P 32x6	P 32x6	Lyc CT	4-3¾x5	22.5	L	FP	Non	Own	Str	G	D-R	D-R‡	D. Ful	Ful SU-1	U	4	Spi	Cla B-365	S	¾	5.6	22.0	G	Col 3008	Gem	95¼	48⅝	3326
*Stewart 16X	1295	130	160	P 32x6	P 32x6	Lyc	6-3¼x4½	25.3	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful	Ful	U	4	Spi	Cla	S	½	5.6	22.0	G*	.....	Ros	94¾	48⅝	3326
United 20	.....	128	.....	P 30x5	P 30x5	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	G	A-L	A-L	D. B-L	B-L 20B	U	3	Blo	Cla B-365	B	½	5.6	17.00	A	Shu 5400	Ros	95½	52⅜	2900
United 20C6	.....	128	.....	P 30x5	P 30x5	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Per	.....	V	A-L	A-L	D. B-L	B-L 20B	U	3	Blo	Cla B-365	B	½	5.6	17.00	A	Shu 5400	Ros	91¾	48½	2900
Valley	1295	132	142	P 33x5	P 33x5	Her	4-4x5	25.6	...	FP	Non	Har	.....	V	D-R	D-R	D. Cov	Cov JUC	U	3	U-M	Tim	S	¾	4.46	Opt	...	Own F	...	.....	.....	.....
Victor 30	1595	131	180	P 30x5	P 30x5	Con 18E	6-3⅜x4	27.3	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Cov	Cov GRBB	U	4	Spi	Own 57	S	½	5.1	20.4	G†	Tim	Ros	.....	.....	3000
White 57	2725	146°	157½	P 32x6	P 32x6	Own GRC	4-4x5¾	25.6	L	FP	Own	Own	Zen	V	L-N	L-N	P. Own	Own GRBB	U	4	Spi	Own 57	S	½	4.67	19.3	\	Own 57	Own	100⅞	62⅞	3774
Woods 20B4	.....	129	129	P 30x5	P 30x5	Con 31L	6-3¾x5½	22.5	L	PC	Non	Per	Zen	V	D-R	D-R	D.B-L	B-L	U	4	Blo	Tim	S	½	5.57	.....	A*	Shu	Ros	90	53	.....
Woods 20B6	.....	129	129	P 30x5	P 30x5	Con 31L	6-2⅞x4¾	19.8	L	PC	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L	U	4	Blo	Tim	S	½	5.57	.....	A*	Shu	Ros	90	53	3050
1½ Ton																																
Acme 24	.....	144	.....	P 30x5	P 30x5	Con S4	4-4¼x4½	28.9	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Col 54000	S	F	5.85	28.2	A	Col 5400	Ros	102⅝	66⅝	3450
Acme 26	.....	144	.....	P 30x5	P 30x5	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Col 54000	S	F	5.85	28.2	A	Col 5400	Ros	102⅝	66⅝	3450
Acorn 30	2300	144	.....	S 34x4	S 34x6	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Zen	G	Bos-R	.....	D. Ful	Ful SU 12	U	3	Spi	Cla B720	S	½	Opt.	Opt.	A	Shu 350	Ros	.....	.....	4400
Acorn 30-P	2300	144	.....	P 30x5	DP30x5	Con 15C	6-3⅜x4⅝	27.3	L	PC	Non	Chi	Zen	G	A-L	A-L	D. Ful	Ful SU 12	U	3	Spi	Cla B365	S	½	Opt	Opt	A	Shu 350	Ros	.....	.....	.....
§Armleder 30	.....	148°	187	S 34x4‡	S 34x6‡	Her OX	4-4x5	25.6	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71¾	4400
Armleder 30B	.....	150°	188	S 34x4‡	S 34x6‡	Bud KBU-I	4-4x5¼	25.6	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71¾	4400
Armleder 30-6	.....	153°	192	S 34x4‡	S 34x6‡	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71¾	4500
Atterbury 26G4	.....	145	160	P 30x5	DP30x5	Lyc C4	4-4x5	25.6	L	PC	Non	Fed	Zen	G	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim	B	F	6.4	21.4	A*	Shu	Gem	120	68	4260
Atterbury 26G6	.....	145	160	P 30x5	DP30x5	Lyc 4S	6-3¼x4½	25.3	L	PC	Non	Per	Zen	V	L-N	L-N	P. Lon	B-L 35	U	4	Spl	Own SA	S	F	6.4	21.4	A*	Shu	Gem	120	68	4260
Autocar SA	2700	150	192	P 32x6	P 32x6	Own	6-3¾x4½	33.7	L	PC	Non	Per	Zen	V	Bos-A	A-L	D. Ful	Ful	U	3	Pet	Tim	W	F	5.22	27.92	H	Tim 14703	Ros	115¼	63⅝	4400
Betz F3	.....	140	Opt	S 34x5	S 34x6	Bud WTU	4-3¾x5⅛	22.5	L	PC	Mon	Chi	Zen	V	D-R	D-R	D. B-L	B-L 31	U	3	Spi	Tim	W	½	7.75	38.0	A*	Shu	Ros	140	...	4650
Biederman	.....	166°	170	S 34x5	S 34x8	Con 8R	6-3⅜x4½	27.3	L	PC	Non	Own	Zen	G	D-R	D-R	D. B-L	B-L 20	U	3	Spi	Col 55001	B	F	5.12	21.2	G*	Col 3204	Ros	111	68	3200
Brockway CJB	.....	142	142	P 32x6	P 32x6	Wis C	4-3¾x5	22.5	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L 20	U	3	Spi	Col 55001	B	F	5.12	20.84	G*	Col 5501	Ros	126¼	71¾	3870
Brockway E	.....	147½°	161	P 32x6	P 32x6	Wis SU	4-4x5	25.6	H	PC	Non	G&O	Zen	V	L-N	L-N	D. B-L	B-L 30	U	3	Spi	Col 55001	B	F	5.87	21.2	G*	Col 3205	Ros	111	68	3650
Brockway CJBF	.....	149	.....	P 32x6	P 32x6	Wis F	6-3¼x4¼	25.3	L	PC	Non	G&O	Zen	V	A-L	A-L	P. B&B	B-L 20	U	4	Spi	Col 55001	B	F	5.87	31.6	G*	Col 5502	Ros	124	71	4420
Brockway EG	.....	153¾°	169½	P 32x6	P 32x6	Wis G	6-3⅝x5	27.3	H	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Col 55001	B	F	5.87	31.6	G*	Col 5502	Ros	124	71	4420
Chevrolet Utility	545	131	.....	P 30x5	P 30x5	Own	6-3⅛x3¾	26.3	H	PG	Non	Har	Car	P	D-R	D-R	Own	Own	U	4	Own	Own	S	½	4.88	30.0	E*	Own	Own	86⅝	51¾	2375
Chicago 15A	.....	135°	195	P 32x6	P 32x6	Wau V	4-4x5	25.6	L	FP	Wau	Chi	Zen	G	Apo	A-L*	D. B-L	B-L 35	U	4	Pet	Tim 5622H	B	F	5.37	28.7	G†	Tim 14733H	Ros	Opt	Opt	4800
Chicago 16A	.....	135°	195	P 32x6	DP32x6	Wau XK	6-3¾x4½	33.7	L	FP	Wau	Chi	Zen	G	Apo	A-L*	D. B-L	B-L 35	U	4	Pet	Tim 5622H	B	F	5.37	28.7	G†	Tim 14733H	Ros	Opt	Opt	5045
Clinton 32	.....	150	Opt.	P 32x6	P 32x6	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	Per	Zen	V	Spl	D-R	D. B-L	B-L 31	U	3	Blo	Cla 501	B	½	6.28	29.5	A*	Shu 5405	Ros	Opt	Opt	3950
Commerce 30Z	2990	168	.....	P 34x5	DP34x5	Bud DS6	6-3⅝x5	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Blo	Tim 63702	W	F	6.5	34.8	E	Tim 14704H	Han	144	90	4700

| | | |

Key of abbreviations, page 78

Trade Name and Model	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase Furnished	General: Tire Size: Front (inches)	General: Tire Size: Rear (inches)	Engine: Make and Model	Engine: Number of Cylinders: Bore and Stroke	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle: Make and Model	Steering Gear (Make)	Cab to rear of frame	Cab to rear axle	Chassis Weight (lbs.) (stripped)
2 Ton																																
†Acme 44		162		P 32x6	P 32x6	Con S4	4-4¼x4½	28.9	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 35	U	4	Blo	Tim 63720	W	F	6.25	33.4	A	Tim 14703	Ros	132⅝	82⅝	4000
†Acme 44		162		P 32x6	P 32x6	Con 16C	6-3⅜x4½	27.3	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 35	U	3	Blo	Tim 63720	W	F	7.33	39.2	A	Tim 14703	Ros	132⅝	82⅝	4000
†Acme 340		162		P 32x6	P 32x6	Con S4	4-4¼x4½	28.9	L	PC	N m	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Tim 54000H	S	F	6.8	32.6	G	Tim 14703H	Ros	132⅝	82⅝	4000
†Acme 346		162		P 32x6	P 32x6	Con 16C	6-3⅜x4½	27.3	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Tim 54000H	S	F	6.8	32.6	G	Tim 14703H	Ros	132⅝	82⅝	4000
Acorn 40	2500	144		S 36x4	S 36x7	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Zen	G	A-L	A-L	D. Ful	Ful SU 12	U	3	Spi	Tim	W	F	5.00	Opt.	A	Shu 350	Ros	Opt	Opt	4600
Acorn 40P	2600	144		P 34x5	DP34x5	Con 15C	6-3⅜x4½	27.3	L	PC	Non	Chi	Zen	G	D-R	D-R	D. Ful	Ful SU 12	U	3	Spi	Tim	W	F	5.00	Opt.	A	Shu 350	Ros	Opt	Opt	4800
Am. La France Chief	3650	192	Opt.	P 32x6	DP32x6	Own	6-3⅜x5	33.7	L	PC	Own	G&O	Lon	V	A-L	A-L	D. B-L	Own	A	4	Spi	Tim	W	F	7.25	38.8	A*	Tim 14703BX	Ros	121	72⅜	4600
Armleder 40		187		S 36x4	S 36x8	Her OX	4-4x5	25.6	L	PC	Non	Per	Zen	V	A-L	A-L	D. B-L	B-L 35	D	4	Spi	Tim	W	F	7.25	38.8	A*	Tim	Ros	121	72⅜	4800
Armleder 40-6		200		S 36x4	Bud HS	Con S4	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	L-N	P. Lon	B-L 35	D	4	Spi	Own SD	R	F	6.33	33.86	H	Tim 14703	Ros	115¼	63⅜	4850
Autocar SD	3000	192		P 32x6	DP32x6	Own	6-3⅜x5	33.7	L	PC	Non	Per	Zen	V	A-L	L-N	D. B-L	B-L 35	D	4	Spi	Wis 4610	R	F	6.00	32.1	G*	Col 5503	Ros	117¾	70¾	5090
Brockway EYW		164	156°	P 32x6	DP32x6	Wis Y	4-4x5	25.6	L	PC	K.P.	G&O	Zen	V	D-R	L-N	D. B-L	B-L 35	D	4	Spi	Wis 4610	R	F	7.25	38.8	B*	Tim 14703	Ros	129	76⅝	5100
Brockway S		164¼	150¾°	S 34x8‡	S 34x8‡	Wau V	4-4x5	25.6	L	FC	K.P.	Wau	Zen	G	A-L‡	A-L‡	D. B-L	B-L 35	D	4	Pet	Tim 63720H	W	F	6.25	33.4	G‡	Tim 14703H	Ros	Opt	Opt	4870
Chicago 20A		195	135°	S 34x7	Wau V	Wau XK	6-3⅜x4½	33.7	L	FC	Wau	Wau	Zen	G	A-L‡	A-L‡	D. B-L	B-L 35	D	4	Pet	Tim 63720H	W	F	6.25	33.4	G‡	Tim 14703H	Ros	Opt	Opt	5115
Chicago 21A		195	135°	P 32x6	DP32x6	Bud KTU	6-3⅜x4½	33.7	L	FC	Wau	Wau	Zen	G	D-R	D-R	D. B-L	B-L 35	D	4	Blo	Tim 64600	W	F	7.75	41.5	A*	Tim 15302	Ros	Opt	Opt	4875
*Clinton 45		162	Opt.	S 34x4‡	S 34x4‡	Bud HS6	4-4x5¼	25.6	L	PC	Non	Per	Str	V	D-R	D-R	D. Ful	Ful GU 12	D	8	Spi	Own	W	F	7.25	139.0	A*	Own	Ros	108	78	5360
Coleman C-25		109	144	P 34x7	P 34x7	Bud HS6	6-3⅜x4½	27.3	L	PC	FP	Per	Str	V	D-R	A-L	D. B-L	B-L 35	D	4	Blo	Tim 63703H	W	F	6.5	36.8	A‡	Tim 14704H	Han	90	90	4900
*Commerce 40Z	3240	168		P 36x6	DP36x6	Bud DS6	6-3⅜x5	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 35	D	4	Blo	Wis 4610	R	F	6.5	36.38	A‡	Tim 15300	Ros	Opt	85	5140
Concord GX-6		163		P 32x6	DP32x6	Bud DW6	6-3⅜x5	33.7	L	PC	Non	Own	Zen	V	D-R	D-R	D. B-L	B-L 35	D	4	Spl	Tim 63703H	W	F	5.83	39.15	G‡	Tim 14703H	Ros	144	78	4980
Corbitt 646		150	135°	P 32x6	P 34x7	Con 16R	4-4x5	38.4	H	FP	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 35	D	4	Spl	Tim 56000H	S	F	7.66	49.83	A	Tim 14703H	Ros	158	86½	4200
Corbitt 9B6		150	135°	P 32x6	DP32x6	Con 16C	6-3⅜x4½	27.3	L	FC	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 35	D	4	Spi	Tim 63702H	B	F	7.75	41.5	A*	Tim 14703H	Ros	158	86½	4300
Day-Elder HF		156	135°	P 32x6	P 34x7	Con 16C	6-3⅜x4½	27.3	L	FP	Non	Bus	Zen	V	D-R	D-R	D. B-L	B-L 35	D	4	Spi	Tim 5622H	W	F	6.83	44.39	A	Tim 14703H	Ros	150	97	4400
Day-Elder HBF		156	135°	P 32x6	P 34x7	Con S4	4-4¼x4½	28.9	L	PC	Non	Bus	Zen	V	A-L	A-L	D. Ful	Cov	D	4	Spi	Tim 6460	S	W	7.25	Opt.	A	Shu	Ros	150	97	5400
†Defiance T162T		175		P 32x6	DP32x6	Con S4	4-4¼x4½	33.7	L	PC	Non	Own	Zen	G	A-L	A-L	D. Cov	Cov	D	4	Spi	Cla	S	W	5.66	33.1	G‡	Cla	Ros	117½	....	4600
Diamond T302	1650	157¾°		P 32x6	P 32x6	Her WXB	6-3⅜x4½	33.7	L	PC	Non	G&O	Zen	V	N-E	Eis	N-E	B-L 35	D	4	Spi	Tim 6462	S	W	7.75	40.0	A	Shu 5550	Ros	....	....	4600
Dixon	2950	146		S 34x4	S 34x6	Her OX	4-4x5	25.6	L	PS	Nom	G&O	Zen	V	N-E	N-E	D. Ful	Ful GU	D	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	57	37	3725
Dodge Brothers	1445	114		P 32x6	P 32x6	Own	6-3⅜x4½	27.3	L	PC	KP	MeC	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	57	37	3725
Dodge Brothers	1445	114		P 32x6	DP32x6	Own	6-3⅜x4½	27.3	L	PC	KP	MeC	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	57	37	3725
Dodge Brothers	1550	114		P 32x6	P 32x6	Own	6-3⅜x4½	27.3	L	PC	KP	MeC	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	57	37	3830
Dodge Brothers	1545	150		P 32x6	P 32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	106¾	69¾	3930
Dodge Brothers	1545	150		P 32x6	P 32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	106¾	69¾	4080
Dodge Brothers	1650	150		P 32x6	P 32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	132¾	84¾	4070
Dodge Brothers	1615	165		P 32x6	DP32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	132¾	84¾	4070
Dodge Brothers	1615	165		P 32x6	DP32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	P. B&B	Own	U-P	4	Spi	Own	S	W	6.38	41.44	G‡	Own	Han	132¾	84¾	4220
Dodge Brothers	1730	165		P 32x6	DP32x6	Own	6-3⅜x4½	27.3	L	PC	KP	Fed	Zen	V	A-L	A-L	D. B-L	B-L 35	D	4	Pet	Tim 65600	B	F	6.75	36.2	A*	Tim 12300	Ros	128⅜	83⅛	5600
*Dupler S		180		P 32x6	P 36x8	Bud DW6	4-4x5	33.7	L	PC	Wau	Own	Zen	V	Bos-R	Bos-R	D. B-L	B-L 35	D	4	Spl	Tim 5260	B	F	4.62	22.2	G*	Tim 12300	Ros	144	83⅛	4500
Fageol 130	1925	156°	172	P 30x5	DP30x5	Wau V	6-3⅜x4½	29.4	L	PC	Wau	Own	Zen	V	D-R	D-R	P. B&B	Own	D	4	Spi	Tim 5620	B	F	4.62	22.2	G‡	Tim 12300	Ros	144	83½	4800
Fageol 135	2100	162°	176	P 30x5	P 30x5	Wau XL	6-3⅜x4½	29.4	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own	D	4	Pet	Cla B510	B	F	6.37	31.87	A*	Cla F304	Ros	119	71	4400
*Federal A6	1695	151	168	P 32x6	DP32x6	Con 16C	6-3⅜x4½	27.3	L	FP	Non	Lon	Zen	V	A-L	A-L	D. Cov	Cov W4C	B	4	Blo	Tim 63720H	W	F	7.33	42.8	A*	Tim 14703H	Ros	120	79	4100
Fisher Mer. Ex	....	146	160	S 34x5	S 34x7	Con 16C	6-3⅜x4½	27.3	L	FP	Non	Lon	Zen	V	A-L	A-L	D. Cov	Cov W4C	D	4	Blo	Tim 5632H	B	F	6.16	36.0	E	Tim 1230-2H	Ros	120	79	3900
Fisher Mer. Ex	....	146	160	P 34x7	P 34x7	Con 16C	6-3⅜x4½	27.3	L	FP	Non	Lon	Zen	V	A-L	A-L	D. Cov	Cov A	D	4	Blo	Own	B	F	7.3	38.0	B	Own H	Ros	112	81	5300
F.W.D.H	3300	121	156	P 34x7	P 36x8	Wis SU	4-4x5	25.6	H	PC	....	....	....	V	A-L	Eis	B-L	B-L 51	D	4	Blo	Own HT	B	F	6.95	84.7	B	Own H	Ros	115	80	6000
F. W. D. HT	3900	120		P 36x8	P 36x8	Wis SU	4-4x5	29.4	L	PC	Non	Per	Zen	V	N-E	N-E	D. B-L	B-L 51	D	4	Blo	Own	B	F	6.14	32.8	G‡	Tim 14703H	Ros	118	87	5500
F. W. D. H6	3425	133	160	P 34x7	P 34x7	Wau XL	6-3⅜x4½	29.4	L	PC	Wau	Per	Zen	V	A-L	A-L	D. Cov	Ful SU12	D	4	Blo	Tim 63703H	W	F	6.5	34.8	G	Own H	Han	144	90	4990
*Garford 40Z	3240	168		P 32x6	P 36x6	Bud DS6	6-3⅜x5	31.2	L	PC	Non	Own	Zen	O	A-L	A-L	D. B-L	B-L 35	D	4	Spi	Eat 1616	S	W	5.63	28.60	G*	Cla 3405	Jac	101	58	3957
General Motors T-30	1505	136°	164	P 32x6	P 34x7	Buick	6-3½x4½	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	D	4	Spi	Own	S	W	6.57	33.38	G*	Own	Jac	101	58	4305
*General Motors T-42	1685	136°	175	P 7.00/20	P 36x8	Buick	6-3½x4½	26.3	I	PC	Han	Mar	O	D	D-R	D-R	P. B&B	B-L 31	D	4	Spi	Tim 63721H	W	F	6.25	30.0	G	Tim 14703H	Ros	....	....	4500
Gotfredson W36	....	165	196	P 32x6	P 34x7	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	McC	Zen	V	D-R	D-R	P. B&B	B-L 35	D	4	Spi	Tim 56000	B	F	6.14	32.8	G‡	Tim 14703H	Ros	....	....	4600
G-P 47-4	....	154	174	P 32x6	P 34x7	Lyc C4	4-4x5	25.6	L	FP	Non	Chi	Str	V	A-L	A-L	D. Cov	Cov	D	4	Spi	Tim 56000	B	F	6.14	32.8	G‡	Tim 14703H	Ros	....	....	4800
G-P 47-6	....	154	174	P 32x6	P 34x7	Lyc TH	6-3½x5	29.4	L	FP	Non	Chi	Str	V	A-L	A-L	D. Cov	Ful SU12	D	4	Spi	Tim 56000	B	F	6.14	32.8	G‡	Tim 14703H	Ros	....	....	4900
Granm 463N	1885	133*	160	P 32x6	P 34x7	Lyc S	6-3½x4½	25.4	L	PC	Non	Own	Zen	G	A-L	A-L	D. Ful	Ful SU12	D	4	Spi	Tim 56000	S	W	6.62	62.5	A*	Cal 3300	Ros	97	57⅜	3840
Granm-Bernstein 115S	....	149½°	196	P 30x5	P 30x5	Con 15C	4-4¼x5	25.4	L	PC	Non	Own	Zen	G	A-L	A-L	D. Ful	Ful SU12	D	4	Blo	Cla B504	B	F	6.38	25.52	B*	Shu 5405	Ros	127	73⅛	3750
Granm-Bernstein 115	....	149½°	160	P 30x5	P 30x5	Lyc C4W	4-4¼x5	25.4	L	PC	Non	Own	Zen	G	A-L	A-L	D. Ful	Ful SU12	D	4	Blo	Cla B504	B	F	6.38	25.52	B*	Shu 5405	Ros	127	73⅛	3850
Granm-Bernstein B6	....	144	....	P 32x6	DP32x6	Con 16C	6-3⅜x4½	27.3	L	PC	Non	Own	Zen	G	A-L	A-L	D. Ful	Ful KU10	D	4	Blo	Tim	S	F	5.83	Opt.	G†	Tim 12703	Ros	120½	73¾	4590
Guilder C6	2150	148	168	P 32x6	DP32x6	Con 16C	6-3⅜x4½	27.3	L	PC	Mom	G&O	Zen	G	A-L	A-L	D. B-L	B-L 51	D	4	Spi	Tim 65000	S	F	7.75	41.0	A*	Shu 5410	Ros	....	....	4650
Guilder E	3150	132	154	S 34x4	S 36x8	Bud KBU-1	4-4¼x5	25.6	L	PC	Pe	Chi	Zen	V	A-L	A-L	D. B-L	B-L 51	D	4	Pet	Eat 1504	S	W	6.3	33.2	A	Shu 5410	Ros	118½	78½	4100
Hahn 44	....	150	177½	P 32x6	P 34x7	Her O	4-4x5	25.6	L	PC	Non	Chi	Zen	V	A-L	A-L	D. Ful	Ful SU12	D	3	Pet	Eat 1504	S	W	6.3	33.2	A	Shu 5410	Ros	118½	78½	4200
Hahn 46	....	154	177½	P 32x6	P 34x7	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Zen	V	A-L	Eis	D. Ful	Ful SU12	D	3	Spi	Own	S	W	6.3	33.2	A	Shu	Lay	....	....	4160
Huffman BC	2795	140	185	S 34x4	S 34x6	Her OX	4-4x5	25.6	L	FP	Non	Chi	Zen	V	A-L	Eis	D. Ful	Ful SU12	D	3	Spi	Own	S	W	6.66	38.67	A	Shu	Lay	....	....	4160
Huffman BH	2295	140	185	S 34x4	S 34x6	Bud HS6	4-4¼x5	25.6	L	FP	Non	Chi	Zen	V	A-L	Eis	D. Ful	Ful SU12	D	3	Spi	Own	S	W	6.66	38.67	A	Cla 304	Ros	132	83	4280
Hug 22	....	160	118	P 30x5	DP30x5	Bud HS6	6-3⅜x4½	27.3	L	PC	Bud	You	Zen	V	D-R	Eis	D. Ful	Ful KU10	D	4	Blo	Cla B510	B	R	6.36	36.79	G	Cla 304	Ros	61½	62	5700
Hug 60	....	118	....	P 32x6	DP32x6	Bud WTU	6-3⅜x4½	22.5	L	PC	Bud	You	Zen	V	D-R	D-R	D. B-L	B-L 51	D	4	Blo	Tim 6460	S	R	6.92	37.02	A	Shu 550	Ros	87½	59	....
Hug 66	....	130	....	P 32x6	DP32x6	Bud HS6	6-3⅜x4½	27.3	L	PC	Bud	You	Zen	V	D-R	D-R	D. B-L	B-L 51	D	4	Blo	Tim 6462	S	R	6.92	37.02	A	Shu 550	Ros	87½	59	5035
Indiana 400	....	157°	175	P 32x6	P 32x6	Wis Y	4-4x5	25.6	L	PC	K.P.	Lon	Zen	V	A-L	Eis	D. B-L	B-L 35	D	4	Spi	Tim 56000	B	F	6.37	34.2	G*	Cla 306	Ros	120	71⅛	4600
Indiana 111XW	....	120	120	P 32x6	P 32x6	Her OX	4-4x5	25.6	L	PC	Non	McC	Lon	V	A-L	Eis	D. B-L	B-L 35	D	4	Spi	Wis 611	S	R	6.5	34.7	B*	Shu 5405	Ros	120	42⅛	4585
Indiana 115	....	150°	186⅜	S 34x4	S 34x7	Her OX	4-4x5	25.6	L	PC	Non	Lon	Lon	V	A-L	Bos-A	P. B&B	B-L 35	D	4	M.M.	Eat 2002	S	W	6.87	40.6	H*	Eat 430A	CAS	423⅛	75½	4555
*Int. Harvester SD-44	....	117	117	P 30x5	P 32x6	Lyc CT	4-4¼x5	22.5	L	PC	Non	Lon	Zen	V	D-R	Non	P. Own	Own	D	4	M.M.	Eat 2002	S	W	6.87	40.6	H*	Eat 430A	CAS	423⅛	75½	3700
*Int. Harvester SD-46	....	117	117	P 30x5	P 32x6	Lyc 4SL	4-4¼x5	25.3	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	D	4	M.M.	Eat 2002	S	W	6.87	40.6	H*	Eat 430A	CAS	423⅛	75½	3955
*Int. Harvester SF46	....	140°	164	P 32x6	P 34x7	Lyc 4SL	4-4¼x5	25.3	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	D	4	M.M.	Eat 2002	S	W	6.87	40.6	H*	Eat 430A	CAS	423⅛	75½	3600
Kenworth 5A	2085	163	195	P 32x6	DP32x6	Bud HS6	6-3⅜x4½	27.3	L	FP	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 31	D	4	Blo	Cla B 510	B	F	6.37	34.1	G†	Cla F304	Ros	132	83	....
Kleiber-Zeeker 42A	3100	147	170	S 36x4‡	S 36x7‡	Con 15C	4-4¼x5½	27.2	L	FP	Han	Per	Str	V	A-L	Bos-R	D. B-L	B-L 50	U	4	Spi	Tim 64600D	W	F	7.75	41.5	A†	Shu 5410	Ros	144	88	5200
						Con K4	4-4¼x5½	27.2	L	FP	Non	R-T	Str	V	A-L	Non	D. B-L	B-L 50	U	A	Spi	Tim 64600D	W	F	7.75	41.5	A†	Tim 15500	Ros	144	88	5200

*Int. Harvester SD-46		117		P 30x3		P 32x6	Lyc 4SL	6-3¾x4½	25.3	L		Non	Lon	Zen	V	D-R	D-R	P. Own	Own		4	Spi	Cla B 510	B	½	6.37	34.1	G†	Cla F304	Ros	125	83	3600
*Int. Harvester SF46		140°	164	P 32x6		P 34x7	Lyc 4SL	6-3¾x4½	27.3	L	PC	Bud	Per	Zen	V	D-R	D-R	D. B-L	B-L 35		4	Spi	Cla B 720	B	½	6.43	30.9	A*	Shu 5410	Ros			
*Kenworth 55	2085	163		P 32x6		P 32x6	Bud HS6	6-3⅜x4½	27.3	L	FP	Han	Chi	Zen	G	A-L	A-L	D. B-L	B-L 31		3	Blo	Tim 5620	B	F	6.43	30.9	A*	Shu 5410	Ros	144	88	5200
King Zeitler 42A	*	156°		P 32x6		DP32x6	Con 15C	6-3⅜x4⅝	27.3	L	FP	Non	R-T	Str	V	Bos-R	Non	D. B-L	B-L 50		4	Spi	Tim 64600D	W	½	7.75	41.5	A†	Tim 15300	Ros			
Kleiber	3100	147	170	S 36x4‡		S 36x7‡	Con K4	4-4½x5¾	27.2	L																									

Kleiber	2450	170	156	P 32x6		DP32x6	Con	6-3⅝x4½	27.3	L	FP	Non	Own	Str	V	D-R	D-R	D. B-L	B-L 35		4	Spi	Tim 5620H	B	F	6.42		A†	Tim 1230H	Ros	150	87	4600
Lange L	3450	145	186	P 32x6		DP32x6	Her YXA	6-3¾x4¾	33.7	L	PC	Non	Mod	Zen	V	A-L	A-L	D. B-L	B-L 35		4	Cle	Wis 6617	R	F	7.75	41.5	A*	Shu 510	Ros	106	65	5800
Larrabee 40		164⅜	200	P 32x6		DP32x6	Con 16R	6-4x4½	38.4	H	PC	Non	Per	Zen	G	D-R	D-R	D. B-L	B-L		4	Spi	Wis	R		Opt	Opt	E†	Tim	Ros	126	72¾	5500
Le Moon HB20	2200	160	182	S 34x4		S 34x7	Wau 6XK	6-3¾x4½	33.7		FP	Non	Chi	Str	G	A-L	A-L	D. B-L	B-L 35		4	Spi	Tim 63720H	W	F	6.25	30.0	G	Tim 14703H	Ros	126	81	4300
Le Moon HB21	2400	160	182	S 32x6		DP32x6	Wau 6XK	6-3¾x4½	33.7		FP	Non	Chi	Str	G	A-L	A-L	D. B-L	B-L 35		4	Spi	Tim 63720H	W	F	6.25	30.0	G	Tim 14703H	Ros	126	81	4500
*Mack AB	3100	146½°		S 36x4		DS36x4	Own AB	4-4½x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB		4	Spi	Own AB	C	D	*7.10	34.4*	B*	Own AB	Own			
*Mack AB	3550	164½°		S 36x4		DS36x4	Own AB	4-4½x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB		4	Spi	Own AB	R	F	*7.60	36.8*	B*	Own AB	Own			
Moreland RR-6	1850	158½		P 32x6		P 32x6	Con 16C	6-3⅝x4⅝	27.3	L	PC	Non	Lon	Zen	O	A-L	A-L	D. B-L	B-L 35		4	Cle	Tim 54000H	S	F	5.83	32.95	G†	Tim 12703H	Ros	132	78	4000
Noble 146B		175		P 32x6		DP32x6	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Chi	Str	V	A-L	A-L	D. Ful	Ful KU12		4	Blo	Tim 54000H	B	F	5.83	37.9	G†	Tim 14703H	Ros	126	86	4850
Noble 146W		175		P 32x6		DP32x6	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Chi	Str	V	A-L	A-L	D. Ful	Ful KU12		4	Blo	Tim 63720N	W	F	6.00	39.0	G†	Tim 14703H	Ros	126	86	5310
Oneida B-9		144		P 32x6		P 34x7	Wau V	4-4x5	25.6	L	PS	Non	Per	Str		A-L	A-L	Ful	Ful KU10		4	Blo	Tim 5620	S	F	6.42		A	Shu 350	Ros			4800
†Oshkosh K	3350	146	165	P 36x8		P 36x8	Her OX	4-4x5	25.6	L	PC	Pie	Own	Zen	V	L-N	L-N	D. B-L	B-L		4	Blo	Own K	B	F	8.0	42.8	B	Own K	Ros	116½	85½	5500
†Oshkosh R6	2295	141	165	P 32x6		DP32x6	Her WXB	6-3¾x4½	33.7	L	PC	Non	Mod	Zen	V	L-N	L-N	D. B-L	B-L		4	Blo	Wis 4610	R	F	6.5	34.7	A	Wis 21	Han	119½	65	4600
Pierce-Arrow XA	3500	150	162	S 36x4‡		DS36x5‡	Own XA	4-4x5½	25.6	T	FP	Own	Own	Str	P	D-R	D-R	D. Own	Own XA		A	4	Spi	Own XA	W	½	8.5	44.2	A	Own XA	Own	125⅞	72⅞	6280
Pierce-Arrow FA	2450	140°	180	S 32x6		S 34x7	Own FA.	6-3½x5	29.4	L	FP			Fed	Str	E	D-R	D-R	P. B&B	B-L		3	Spi	Tim	B	F	5.28	33.3	E*	Own	Gem	106⅜	52⅝	3855
†Rehberger A-6		162	180	P 32x6		DP32x6	Wau XK	6-3¾x4½	33.7	L	PC	Non	Bus	Zen	V	Eis	D-R‡	D. B-L	B-L 35		4	Spi	Tim 54000H	S	F	5.83	31.21	G	Tim 14703H		130¼	77¾	5000
*Relay 40 A	3240	168		P 36x6		DP36x6	Bud DS6	6-3⅝x5	31.2	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 35		4	Blo	Own 30	R	F	6.45	34.5	G	Tim 14704H	Han	144	90	5500
Reo FC	1595	152		P 32x6		DP32x6	Own	6-3⅜x5	27.3	L	PC	K.P.	Own	Sch	V	D-R	D-R	D. B-L	Own		4	Pet	Own	S	½	5.7	37.62	E†	Own	Han			
Reo FD	1695	168		P 32x6		DP32x6	Own	6-3⅜x5	27.3	L	PC	K.P.	Own	Sch	V	D-R	D-R	D. B-L	Own		4	Pet	Own	S	½	5.7	37.62	E†	Own	Han			
†Republic F-1		155°		P 32x6		DP32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful		4	U-M	Eat	B	½	6.62	44.0	G*	Eat	Han	135½	80	4650
Republic 88		110		P 30x5		DP30x5	Lyc C4	4-4x5	25.6	L	PC	Non	Own	Zen	V	A-L		D. Ful	Ful		3	U-M	Eat	B	½	6.62	26.5	A*	Eat	Han	53¾	39	3350
Republic 88-6		113¾		P 30x5		DP30x5	Lyc 4SG	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L		D. Ful	Ful		3	U-M	Eat	B	½	6.62	26.5	A*	Eat	Han	53¾	39	3350
Republic 15W		153°		S 34x4		S 34x7	Wau V	4-4x5	25.6	L	FP	Wau	Own	Zen	V	Bos-A	A-L	D. Ful	Ful		3	U-M	Eat	I	D	7.20	28.8	B*	Eat	Jac	140¼	82¾	4200
Republic 50		154°		P 30x5		DP30x5	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful		3	U-M	Eat	B	½	6.62	26.5	B*	Eat	Han	135½	79¼	4100
Republic 85		155°		P 30x5		DP30x5	Lyc C4	4-4x5	25.6	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful		3	U-M	Eat	B	½	6.62	26.5	B*	Eat	Han	135½	79¼	4250
Schacht 30		166	193	P 32x6		DP32x6	Wau XL	6-3½x4½	29.4	L	FP			Own	Zen	V	L-N	L-N	D. Ful	Ful MGU		4	Blo	Wis 670D	R	F	7.75	50.3	G	Shu 510	Ros	142⅝	85⅞	
Schacht 20		160	174	P 32x6		DP32x6	Con	6-3⅜x4⅝	27.3	L	FP	Non	You	Zen	O	D-R	D-R	D. B-L	B-L		4	Spi	Tim	S	F	5.83	31.19	G		Ros			4500
*Selden Unit 37		151	181	P 30x5		DP30x5	Con C15	6-3⅜x4½	27.3	L	FP	Non	Own	Str	G	D-R	D-R	D. B-L	B-L		4	Blo	Tim 54000	B	½	Opt	Opt		Tim 12703H	Ros	168	97	4600
*Service 40Z	3240	168		P 36x6		DP36x6	Bud DS6	6-3⅝x5	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 35		4	Blo	Tim 63703H	W	F	6.5	34.8	G	Tim 14704H	Han	144	90	4900
†Sterling DB11-64XL		150	164	P 34x7		P 34x7	Wau 6XL	6-3½x4½	29.4	L	FP	Wau	Per	Zen	V		L-N	D. B-L	B-L 35		4	Har	Tim 56000H	B	S	7.4	39.69	G	Tim 12703H	Ros	124⅝	70⅝	4295
Stewart 25	1975	145	176	P 32x6		P 34x7	Lyc 4	4-4x5	25.6	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful			4	U-P	Tim	S	F	6.83	44.4	G	Tim	Ros	114¾	63¾	4088
Stewart 25X	1975	145	176	P 32x6		P 34x7	Lyc 4SL	6-3¼x4½	25.3	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful			4	U-P	Tim	S	F	6.83	44.4	G*	Tim	Ros	114¾	63¾	4088
Stewart 25W	2095	145	176	P 32x6		P 34x7	Lyc C4W	4-4x5	25.6	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful			4	U-P	Tim	W	F	7.33	46.6	G	Tim	Ros	114¾	63¾	4160
Stewart 25XW	2095	145	176	P 32x6		P 34x7	Lyc 4SL	6-3¼x4½	25.3	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful			4	U-P	Tim	W	F	7.33	46.6	G	Tim	Ros	114¾	63¾	4160
Stewart 26X	2190	165	190	P 32x6		DP32x6	Lyc TF	6-3⅝x5	31.5	L	FP	Han	Fed	Str	V	D-R	D-R	Ful	Ful		4	Spi	Tim	S	F	6.83	44.6	G	Tim	Ros	137⅞	80¼	5095
Stewart 26XW	2290	165	190	P 32x6		DP32x6	Lyc TF	6-3⅝x5	31.5	L	FP	Han	Fed	Str	V	D-R	D-R	Ful	Ful		4	Spi	Tim	W	F	7.33	46.0	G	Tim	Ros	137⅞	80¼	5095
United 32		148		P 30x5		P 32x6	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	G	Eis	A-L	D. B-L	B-L 31		3	Blo	Wis 4600	R	F	6.00	28.8	A*	Shu 310	Ros	115⅜	75⅜	4000
United 32C6		148		P 30x5		P 32x6	Con 6B	6-3¾x5	33.7	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L	B-L 35		4	Blo	Wis 4600	R	F	6.00	32.1	A*	Shu 310	Ros	106¾	66¾	4200
U. S. 21	2550	144°	162	S 36x4‡		S 36x6‡	Bud WTU	4-3¾x5½	22.5	L	PC	Non	Own	Str	V	A-L	A-L	D. B-L	B-L 35		4	Blo	Tim 64600D	W	½	8.75	35.0		Shu 510	Lav	120	72	4550
U. S. 20	2650	Opt.	192	S 36x4		S 36x7	Bud HS	6-3⅜x4½	27.3	L	PC			Own	Str	V	A-L	A-L	D. B-L	B-L 35		4	Blo	Tim 64600D	W	½	8.75	46.7	A*	Shu 510	Lav	119	79	4800
Valley	1650	132	142	P 32x6		P 32x6	Her	4-4x5	25.6		FP	Non	Har			D-R	D-R	D. Ful	Ful		4		Wis	R		Opt	Opt		Shu	Ros			
Victor 40	2195	148	193½	P 32x6		P 34x7	Her WXB	6-3¾x4½	33.7	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Ful	Ful KU10		4	U-M	Wis 4600	S	F	6.1	40.1	G†	Shu 5410	Ros			4500
White 56	3125	165°	175	S 36x4‡		S 36x7‡	Own GRC	4-4x5¾	25.6	L	FP	Own	Own	Zen	V		L-N‡	P. Own	Own GRBB		U	4	Spi	Own 56	S	½	6.33	26.7	B*	Own 56	Own	119⅜	81⅜	5096
*Willys-Knight 20	1945	150	150	P 32x6		P 34x7	Own	6-3⅜x4¾	27.3	X	FP	Han	Own	Til	V	A-L	A-L	P. B&B	Ful DU		U	3	Blo	Eat 1504	B	½	Opt	Opt	E*	Tim	Ros	126	73¼	3800
†Willys-Knight 121	1995	198	198	P 32x6		P 34x7	Own	6-3⅜x4¾	27.3	X	FP	Han	Own	Til	N	A-L	A-L	P. B&B	Ful DU		U	3	Blo	Eat 1504	B	½	Opt	Opt	E*	Tim	Ros	126	73¼	3900
Witt-Will P		168°	172	S 36x4		S 36x8	Con S4	4-4¼x4½	28.9	L	FP	Pie	Own	Zen	V	Eis	D-R	D. B-L	B-L 35		U	4	Spi	Tim 64600D	W	½	7.10		A*	Tim 15300	Ros	136½	79½	4200
†Witt-Will R2		155		P 32x6		DP32x6	Con 16R	6-4x4½	38.4	H	PC			Per	Zen	V	D-R	D-R	D. B-L	B-L 35		U	4	Spi	Tim 63720	W	F	6.5	34.78	G	Tim 14703	Ros			5820
Woods 40B6		160	171	P 32x6		P 34x7	Bud HS6A	6-3⅜x4½	27.3	L	PC	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 35		U	4	Blo	Tim	S	F	5.29		A*	Shu	Ros	128	81	4300
World D88		147½	177½	P 32x6		DP32x6	Lyc	8-2⅞x4¾	26.4	L	PC	Han	Mod	Zen	O	A-L	A-L	P. Lon	Ful		U	4	Blo	Tim	S	F	6.16	37.	F	Shu	Han	118	71	4475

2½ Ton

Acme 52		186		P 34x7		DP34x7	Con 18R	6-4x4½	38.4	H	PC	Con	Per	Str	V	A-L	A-L	D. B-L	B-L 60		A	4	Blo	Tim 65706DP	W	F	7.75	41.5	B	Tim 15300	Ros	156	96½	7100
Acorn 45	2900	156		S 36x4		S 36x8	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Zen	G	Bos-R		D. Ful	Ful GU14		U	4	Spi	Tim 65600	W	F	Opt	Opt	A	Shu 350	Ros			4800
Acorn 45P	3600	156		P 34x7		DP34x7	Bud DW6	6-3¾x5	33.7	L	FP	Non	Chi	Zen	V	A-L	A-L	D. Ful	Ful GU 14		U	4	Spi	Cla B720	S	½	Opt	Opt	A	Shu 350	Ros			5500
Am. LaFrance Chief	3900	192		P 34x7		DP34x7	Own	6-3¾x5	33.7	L	PC	Bud	G&O	Zen	V	D-R	D-R	D. B&B	Own		A	4	Spi	Tim 63-700BX	W	F	5.00	24.0	E*	Tim 14703BX	Ros	Opt	Opt	6400
Armleder 50		152°	209	S 36x4‡		S 36x8‡	Bud EBU-I	4-4¼x5½	28.9	L	PC	Han	Lon	Zen	V	A-L	A-L	D. B-L	B-L		U	4	Spi	Tim	W	F	9.25	49.5	A*	Tim	Ros	133	77⅜	5300
Armleder 55		152	209	S 36x4‡		S 36x8‡	Con K4	4-4¼x5¼	27.2	L	FP	Han	Lon	Zen	V	A-L	A-L	D. B-L	B-L		U	4	Spi	Tim	W	F	9.25	49.5	A*	Tim	Ros	133	77⅜	5300
Armleder 50-6		158°	215	S 36x4‡		S 36x8‡	Bud BUS	6-4x5½	38.4	L	PC	Mon	Lon	Zen	V	A-L	A-L	D. B-L	B-L		U	4	Spi	Tim	W	F	7.25	38.8	A*	Tim	Ros	133	77⅜	5600
§Atterbury 27R6		160	186	P 32x6		DP32x6	Lyc TS	6-3⅞x5	36.2	L	FP	Han	Fed	Zen	V	D-R	A-L	D. B-L	B-L		U	4	Spi	Tim	W	F	6.5	34.7	A*	Tim	Gem	148½	90	5470
Betz D-3		168		S 36x5		S 36x10	Bud ETU	4-4¼x5½	28.9	L	PC	Mon	Chi	Zen	G	Bos-A	A-L	D. Ful	Ful		U	4	Pet	Tim	W	F			E	Tim	Ros			4750
Betz D3-6		171		S 36x5		S 36x10	Bud DW6	6-3¾x5	33.7	L	PC	Mon	Chi	Zen	G	A-L	A-L	D. Ful	Ful		U	4	Pet	Tim	W	F			E	Tim	Ros			5000
Biederman		160°	200	S 36x5		S 36x10	Con 6B	6-3¾x5	33.7	L	PC	Han	Own	Zen	G	D-R	D-R	D. B-L	B-L 51		U	4	Spi	Tim	W	F	8.5	45.0	A*	Shu	Ros	164		4905
Brockway SY		151¾°	178½	P 32x6		P 34x7	Wis Y	6-3⅜x5	27.3	H	PC	K.P.	G&O	Zen	V	L-N	L-N	D. B-L	B-L 35		U	4	Spi	Wis 4610	R	F	6.6	35.3	G*	Col 5503	Ros	129	73	5145
Chicago 25A		135	195	S 36x4		S 36x8	Wau V	4-4x5	25.6	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 35		U	4	Pet	Tim 65001H	W	F	7.75	41.5	G†	Tim 14703H	Ros	Opt	Opt	5550
Chicago 26A				P 34x7		DP34x7	Wau XK	6-3¼x4½	33.7	L	FP	Wau	Chi	Zen	G	Apo	A-L*	D. B-L	B-L 35		U	4	Pet	Tim 65001H	W	F	7.75	41.5	G†	Tim 14703H	Ros	Opt	Opt	5800
Chicago 30B		138	222	S 36x5		S 36x10	Wau V	4-4x5	25.6	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 35		U	4	Pet	Tim 65001H	W	F	7.75	41.5	G†	Tim 15733H	Ros	Opt	Opt	6120
Coleman C25D		109	144	P 38x7		P 38x7	Bud HS6	6-3⅜x4½	27.3	L	FP	Bud	Per	Zen	V	D-R	D-R	D. Ful	Ful GU14		U	8	Spi	Wis	R	F	8.33	159.0	E	Wis	Ros	108	78	6400
*Commerce 50Z	4415	175		S 36x5		S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51		U	5	Blo	Tim 65706DH	W	F	8.5	63.0	G	Tim 15733H	Ros	156	97½	7000
Corbitt 54		152	220	S 36x4‡		S 36x8‡	Con K4	4-4½x5¼	27.2	L	FP	Sim	Per	Zen	V	Eis	D-R‡	D. B-L	B-L 51		U	4	Spi	Tim 65000D	W	F	8.5	55.1	A‡	Tim 15300	Ros	134	80	5325
Corbitt 56		152	220	P 34x7		DP34x7	Con 16R	6-4x4⅛	38.4	H	FP	Sim	Per	Zen	V	Eis	D-R‡	D. B-L	B-L 51		U	4	Spi	Tim 65000H	W	F	7.25	45.5	G†	Tim 15733H	Ros	134	80	5400
Denby 43		155		S 36x4		S 36x8	Her O	4-4x5	25.6	L	PC		Lon	Zen	G	Eis		D. Ful	Ful		U	4	Spi	Wis	R	F	7.25	39.12		Con	Ros			4925
†Defiance OX		175	240	P 32x6		DP32x6	Con 6B	6-3¾x5	33.7	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful		U	4	Spi	Wis	R	F	7.25	Opt	A	Shu	Ros	160	110	6200
†Defiance OXH		175	240	P 32x6		DP32x6	Her WXC	6-4x4½	38.4	L	FR	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful		U	4	Spi	Wis	R	F	7.25	Opt	A	Shu	Ros	160	110	6400
*Diamond T550	2195	165°	183¼	P 32x6		DP32x6	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov	Cov		U	4	Spi	Cla	S	½	7.12	36.9	G†‡	Cla	Ros	138		5400
*Diamond T502	2675	173°	188	P 34x7		DP34x7	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov	Cov		U	4	Spi	Tim 65000H	W	F	9.33	48.5	G†‡	Shu	Ros	146½		5900
*Diamond T505	2875	171½	196½	P 32x6		DP34x7	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov.	Cov		U	4	Spi	Wis	R	F			G†‡	Shu	Ros			5850
Fageol 250	2990	178°	196	P 32x6		DP32x6	Wau XK	6-3¾x4½	33.7	L	PC	Non	Own	Zen	V	Bos-R	Bos-R	D. B-L	B-L 35		U	4	Spi	Tim 63500	W	F	4.88	20.56	G†	Tim 14703	Ros	167⅜	99⅛	5250
*Federal T3W	2075	148	185	P 32x6		DP32x6	Wau V	4-4x5	25.6	L	PC	Wau	Lon	Zen	V	D-R	D-R	P. B&B	Own		A	4	Pet	Tim 64600HP	W	½	7.25	36.2	G†	Own	Ros	119	71	5050
*Federal T22	2100	115	115	P 32x6		DP32x6	Wau V	4-4x5	25.6	L	PC	Wau	Lon	Zen	V	D-R	D-R	P B&B	Own		A	4	Pet	Tim 64600D	W	½	7.25	36.2	A*	Own	Ros	52		4750
*Federal T8	2125	148	185	P 32x6		DP32x6	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own		A	4	Pet	Tim 64600H	W	½	7.25	36.2	G†	Own	Ros	119	71	5050
Fisher Heavy Duty		156½	190	P 32x6		DP32x6	Con 18R	6-4x4½	38.4	H	FP			Lon	Str	V	A-L	A-L	D. Cov	Cov RA D4		A	4	Blo	Tim 58000H	B	F	6.83	42.3	E	Tim 15733H	Ros	120	80	4800
Fisher Heavy Duty		156½	190	S 36x5		S 36x8	Con 18R	6-4x4½	38.4	H	FP			Lon	Str	V	A-L	A-L	D. Cov	Cov RA D4		A	4	Blo	Tim 65000H	W	F	8.66	53.2	E	Tim 15733H	Ros	120	80	5150
*Garford 50Z	4415	175		S 36x5		S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51		U	5	Blo	Tim 65706DH	W	F	8.5	63.0	G	Tim 15733H	Ros	156	97½	7000
General Motors T42	1790	136°	175	P 32x6		DP32x6	Buick	6-3⅛x4⅝	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun		U	4	Spi	Own	S	½	6.57	33.38	G*	Own	Jac	101	58	4435
Gotfredson W44		165	196	P 34x7		P 34x7	Bud KBU-I	4-4x5¼	25.6	L	PC	Non	McC	Zen	V	D-R	D-R	D. B-L	B-L 35		U	4	Spi	Tim 63721H	W	F	7.66	40.98	G	Tim 14703H	Ros			5050
Gotfredson W46		165	196	P 34x7		P 34x7	Bud DW6	6-3¾x5	33.7	L	PC	Pie	McC	Zen	V	D-R	D-R	D. B-L	B-L 35		U	4	Spi	Tim 63721H	W	F	6.5	34.78	G	Tim 14703H	Ros			5000
G-P 57-4		154	175	P 36x6		P 40x8	Wau CR	4-4½x5¾	30.6	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 51		U	5	M.M.	Tim 65706	W	F	7.80		F*	Tim 15733	Ros			6800
G-P 57-6		154	175	P 36x6		P 40x8	Wau 6-KS	6-4x4¾	38.4	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 51		U	5	M.M.	Tim 65706	W	F	7.80		F*	Tim 15733	Ros			6800
Gramm 564N	2985	150°	196	P 32x6		DP32x6	Lyc TS	6-3⅞x5	36.2	L	PC	Han	Own	Zen	V	A-L	A-L	D. Ful	Ful G		U	4	Blo	Wis 6617B	R	F	6.33	30.4	A*	Col 5400	Ros	97	57⅜	4800
Gramm-Bernstein 125		144°	160	S 36x4‡		DS36x4	Con S4	4-4¼x4½	28.9	L	FP	Non	Own	Str	G	Eis	A-L	D. Ful	Ful GU		U	4	Own	Wis	W	F	8.66	41.57	*	Shu 5410	Ros	125	76¼	5440

Key of abbreviations, page 78

Trade Name and Model	General					Engine								Electrical System		Clutch	Gearset			Universals (Make)	Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase		Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size: Front (inches)	Tire Size: Rear (inches)	Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Type and Make	Make and Model	Location	No. of Forward Speeds		Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low				Cab to rear of frame	Cab to rear axle	
2½ Ton—Cont'd																																
Gramm Bernstein B6	....	144	.....	P 32x6	DP32x6	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	You	Zen	V	A-L	A-L	D. Ful	Ful KU10	U	4	Blo	Tim	B	F	5.83	37.89	G†	Tim	Ros	120½	73¾	4590
Gramm-Bernstein C	....	144°	166	S 36x4‡	DS33x4‡	Con K4	4-4½x5¼	27.2	L	FP	Pie	Own	Str	V	Eis	A-L	D. Ful	Ful GOG	A	8	Blo	Wis 9890T	W	F	8.66	76.6	B*	Shu 5550	Ros	128½	76¼	5865
Gramm-Bernstein C6	....	150°	201	S 36x4‡	DS36x4‡	Con 6B	6-3⅝x5	33.7	L	FP	Pie	Own	Str	V	Eis	A-L	D. Ful	Ful GOG	A	8	Blo	Wis 9890T	W	F	7.75	68.6	B*	Shu 5550	Ros	128½	77 7/16	5920
*Guilder E6	3150	168	184	P 32x6	DP32x6	Her WXB	6-3¾x4½	33.7	L	PC	Mon	G&O	Zen	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Tim 5600°	S	F	Opt	Opt	...	Tim 14703	Ros	....	....	5600
Hahn 56	....	160	199	P 32x6	DP32x6	Con 6B	6-3⅜x5	33.7	L	PC	Han	Chi	Zen	V	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Eat 2252	S	F	6.13	32.74	B	Shu 5550	Ros	128	78	5300
Hahn 54	....	153	192	P 36x4	P 36x8	Her L	4-4½x5¾	32.4	L	PC	Han	Chi	Zen	V	Bos-R	Non	D. B-L	B-L 51	U	4	Spi	Tim 65600D	W	F	7.25	38.7	A	Tim 15302	Ros	128	76	5600
Harvey WG6	3500	185	185	S 36x5‡	S 36x10‡	Bud EBUI	4-4¼x5½	28.9	L	PC	McC	Own	Str	G	A-L	A-L	D. B-L	B-L 55	A	7	Spi	Tim 65700D	W	F	9.33	88.6	A*	Tim 15300	Ros	....	....	6900
Harvey WG	3500	150°	185	S 36x5‡	S 36x10‡	Bud EBUI	4-4¼x5½	28.9	L	PC	McC	Own	Str	G	Bos-R	Non	D. B-L	B-L 55	A	7	Spi	Tim 65700	W	F	9.33	88.6	A*	Tim 15300	Ros	....	....	6950
Hawkeye 50-75	....	210°	225	S 36x5‡	S 36x8‡	Bud BA6	6-4½x5⅛	40.8	L	PC	Non	Per	Zen	G	Bos-R	N-E	D. Ful	Ful HU	U	4	Pie	Wis 1418	R	F	6.86	37.4	A‡	Shu 5550	Ros	205	131	5900
Hawkeye 50-48	....	Opt	185	S 36x5‡	S 36x8	Bud EBUI	4-4¼x5½	28.9	L	PC	Sim	Per	Zen	G	Bos-R	N-E	D. Ful	Ful HU	U	4	Pie	Wis 8800A	R	F	8.6	54.2	A*	Shu 5550	Ros	179	106	5400
Hawkeye 50-60	....	197	197	S 36x6	DS38x7	Bud DW6	6-3¾x5	33.7	L	PC	.....	Per	Zen	G	N-E	N-E	D. Ful	Ful HU	U	4	Pie	Wis 1418	R	F	8.00	50.2	A‡	Shu 5550	Ros	179	118	5800
Hendrickson ST	3400	.....	.....	S 36x5	S 36x8	Bud ETU	4-4¼x5½	28.9	L	FP	McC	Chi	Zen	G	Spl	.....	D. Ful	Ful G7	A	4	Pie	Tim 65600D	W	F	.....	.....	A*	Tim 15300B	Ros	Opt	Opt	5750
Hug 26	....	150	195	P 32x6	DP32x6	Bud DW6	6-3¾x5	33.7	L	PC	Bud	You	Zen	V	A-L	D-R	D. B-L	B-L 35	U	4	Blo	Wis 4610	R	F	5.98	19.67	A	Shu 550	Ros	130	75	5645
Hug 81	....	127	127	P 36x6	DP36x6	Bud KBU-I	4-4x5¼	25.6	L	PC	Bud	You	Zen	V	Eis	D-R	D. B-L	B-L 51	U	4	Blo	Wis 8800B	R	F	7.85	42.05	A	Shu 550	Ros	78	57½	5890
Hug 84	....	127	127	P 36x6	DP36x6	Bud KBU-I	4-4x5¼	25.6	L	PC	Bud	You	Zen	V	Eis	D-R	D. B-L	B-L 51	U	5	Blo	Wis 8800B	R	F	7.85	46.85	A	Shu 550	Ros	78	57½	6088
Indiana 115A	....	132	132	P 32x6	DP34x7	Her OX	4-4x5	25.6	L	PC	Non	Lon	Str	G	Eis	A-L	P. B&B	B-L 35	U	4	Spi	Cla 720	S	½	7.85	42.99	B*	Shu 5410	Ros	87⅛	56¾	4970
†Indiana 127S	....	162½	.....	S 36x5	S 36x10	Her L	4-4½x5¾	32.4	L	PC	Pie	Lon	Str	V	Eis	A-L	P. B&B	B-L 55	U	4	Spi	Cla 720	S	½	8.00	42.8	A°	Shu 5550	Ros	138	83	6300
†Indiana 127W	....	162½	.....	S 36x5	S 36x10	Her L	4-4½x5¾	32.4	L	PC	Pie	Lon	Str	V	Eis	A-L	P. B&B	B-L 55	U	4	Spi	Tim 65700	W	F	8.00	42.8	A°	Shu 5550	Ros	138	83	6300
Indiana 615A	....	136	135½	P 32x6	DP34x7	Wis Y	6-3⅜x5	27.3	H	PC	K.P.	Lon	Str	G	Eis	A-L	P. B&B	B-L 35	U	4	Spi	Cla 720	S	½	7.85	46.79	B*	Shu 5410	Ros	87½	57⅞	5160
Int. Harvester HS54	....	148°	200	S 36x5‡	S 36x8‡	Ha S 151	4-4¼x5½	28.9	H	PC	Ha S	Own	Zen	G	Bos-R	D-R*	P. Own	Own	U	5	Own	Eat 54	R	F	6.85	60.49	E*	Eat 54F	Own	106½	73¼	7500
Int. Harvester HS54C	....	148°	200	S 36x5‡	S 36x10‡	Ha S 151	4-4¼x5½	28.9	H	PC	Ha S	Own	Zen	G	Bos-R	D-R*	P. Own	Own	U	5	Own	Own	C	D	7.22	63.75	E*	Eat 54F	Own	106½	73¼	8165
Int. Harvester 54C	....	140°	185	S 36x5‡	S 36x10‡	Own	4-4¼x5	28.9	H	SP	Own	Own	Zen	G	Bos-R	D-R*	D. Own	Own	U	4	Own	Own	C	D	8.75	51.5	B*	Own	Own	104	67	6400
Int. Harvester 54	....	140°	185	S 36x5‡	S 36x8‡	Own	4-4¼x5	28.9	H	SP	Own	Own	Zen	G	Bos-R	D-R*	D. Own	Own	U	4	Own	Eat 54	R	F	9.1	54.0	B*	Own	Own	116	67	6345
Kenworth DH	3130	166	180	P 32x6	DP32x6	Her WXC	6-4x4½	38.4	L	PC	Pie	Per	Zen	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Cla B721	B	½	7.00	42.8	A	Cle F304	Ros	130	84	.....
King Zeitler 45	....	156°	.....	S 36x5‡	S 36x8‡	Con S4	4-4¼x5½	28.9	L	FP	Han	Chi	Str	G	Bos-R	A-L‡	D. B-L	B-L 35	U	4	Blo	Tim 65000D	W	F	9.25	49.5	A*	Tim 15302	Ros	.....	.....	5400
Kissel	....	168	.....	S 36x4	S 36x8‡	Own 50000	4-4¼x5½	28.9	L	SP	Pie	McC	Str	V	Eis	D-R‡	D. W-G	Ful G7	A	4	Spi	Tim 6566	W	F	8.50	40.8	A*	Tim 1544B	Ros	.....	.....	5100
Kleiber Speed	2950	180	180	P 32x6	DP32x6	Bud	6-3¾x5	33.7	L	PC	Non	Own	Str	V	D-R	D-R	D. B-L	B-L 55	U	4	Spi	Tim 63720H	W	F	6.25	33.4	A†	Tim 14703H	Ros	144	97	5100
Kleiber	3850	163	165½	S 36x5‡	DS36x5‡	Con L4	4-4½x5½	32.4	L	FP	Non	R-T	Str	V	Bos-R	Bos A‡	D. B-L	B-L 51	U	4	Spi	Tim 65660D	W	F	7.75	41.5	A†	Tim 1544B	Ros	156	90	6500
Lange O	....	145	170	P 34x7	DP34x7	Her YXB	6-4x4¾	38.4	L	PC	Non	Mod	Zen	V	A-L	A-L	D. B-L	B-L 51	U	4	Cle	Wis 8817	R	F	8.5	48.6	A	Shu 510	Ros	106	65	5900
Larrabee 50	....	177	200	P 32x6	P 32x6	Con 16R	6-4x4½	38.4	H	PC	Non	Per	Zen	G	D-R	D-R	D. B-L	B-L	U	4	Spi	Wis	R	F	Opt	Opt	E†	Tim	Ros	.....	.....	.....
LeMoon HB25	2900	166	182	S 34x5	S 34x8	Wau 6XK	6-3⅜x4½	33.7	...	FP	Non	Chi	Str	G	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim 65000H	W	F	8.5	45.47	G	Tim 15733H	Ros	138	90	5500
Le Moon HB26	3250	166	182	P34x7	DP34x7	Wau 6XK	6-3⅜x4½	33.7	...	FP	Non	Chi	Str	G	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim 65000H	W	F	7.25	38.78	G	Tim 15733H	Ros	138	90	5500
Le Moon HB27	3600	166	182	P 34x7	DP34x7	Wau 6XU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Str	G	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim 65000H	W	F	6.00	32.10	G	Tim 15733H	Ros	138	90	5700
Luedinghaus	....	145°	172	S 36x5‡	S 36x8‡	Wau FU	4-4x5¾	25.6	L	PC	Wau	Own	Zen	...	Eis	Non	D. Ful	Ful GU14	U	4	Spi	Tim 65000D	W	F	.....	.....	A*	Shu 510	Ros	120	77	4900
Maccar 46	....	150	180	P 32x6	DP32x6	Wis Y	6-3⅜x5	27.3	L	PC	Han	Lon	Str	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Wis 6600	R	F	6.92	37.4	A‡	Shu 5410	Ros	131¼	81¼	5200
*Mack AB	3500	146½°	.....	S 36x4	DS36x4	Own AB	4-4¼x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB	U	4	Spi	Own AB	C	D	*8.87	43.0*	B*	Own AB	Own	.....	.....	.....
*Mack AB	3950	164½°	.....	S 36x4	DS36x4	Own AB	4-4¼x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB	U	4	Spi	Own AB	R	F	*9.25	44.9*	B*	Own AB	Own	.....	.....	.....
†Master-Eagle 6-25	....	142	.....	P 30x5	DP30x5	Con	6-3⅜x4	27.3	...	.....	.....	.....	.....	.....	A-L	A-L	D. B-L	B-L	U	4	Cle	Tim	B	F	.....	.....	I†	Tim	Ros	116	.....	5400
Noble 156B	....	176	203	P 34x7	DP34x7	Bud DW6	6-3¾x5	33.7	L	PC	Bud	Chi	Str	V	A-L	A-L	D. Ful	Ful MGU	U	4	Blo	Tim 58000H	S	F	6.83	44.39	G†	Tim 15733H	Ros	147½	86½	5625
Noble 156W	....	176	203	P 34x7	DP34x7	Bud DW6	6-3¾x5	33.7	L	PC	Bud	Chi	Str	V	A-L	A-L	D. Ful	Ful MGU	U	4	Blo	Tim 65000H	W	F	6.0	39.0	G†	Tim 15733H	Ros	147½	86½	5950
Oneida C9	....	160	.....	P 34x7	P 36x8	Wau CR	4-4⅝x5¾	30.6	L	PS	Non	Mod	Str	...	A-L	A-L	Ful	Ful GCL	A	4	Pet	Tim 65660	W	F	8.5	.....	...	Shu 550	Ros	....	....	5200
†Oshkosh M	3250	146	170	P 36x6	DP36x6	Her WXC	6-4x4½	38.4	L	PC	Her	Own	Zen	V	L-N	L-N	D. B-L	B-L	U	4	Blo	Wis 67317	R	F	7.75	42.4	A	Wis 21	Han	131¾	73	6550
†Oshkosh L	3925	146	165	P 36x8	P 36x8	Her WXC	6-4x4½	38.4	L	PC	Her	Own	Zen	V	L-N	L-N	D. B-L	B-L	U	4	Blo	Own L	R	F	7.4	39.6	B	Own L	Han	114½	83½	7900
*Relay 50C	4415	175	.....	P 36x6	S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Own 60	R	F	7.88	58.5	G	Tim 15733H	Ros	156	97½	7300
†Republic F1	....	155°	.....	P 32x6	DP32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	B	½	6.62	44.0	G*	Eat	Han	135½	80	4650
†Republic H1	....	163°	.....	P 34x7	DP34x7	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	B	F	5.5	35.75	G*	Eat	Han	147¾	84	5750
Republic 60	....	163°	.....	P 32x6	DP32x6	Lyc TF	6-3⅝x5	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	¾	5.5	22.0	E*	Eat	Han	147¾	84	4600
Republic 58	....	122	.....	P 32x6	DP32x6	Lyc C4	4-4x5	25.6	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	¾	6.87	27.5	B*	Eat	Han	83	46½	4300
Republic 58-6	....	122	.....	P 32x6	DP32x6	Lyc 4SG	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	¾	6.87	27.5	B*	Eat	Han	83	46¼	4300
Schacht 40	....	166	193	S 34x5	DS34x5	Wau XK	6-3⅜x4½	33.7	L	PC	Han	Own	Zen	G	L-N	L-N	D. Ful	Ful MGU	U	4	Spi	Wis	R	F	7.75	50.3	G	Shu	Ros	142⅝	85⅝	6200
*Service 50Z	4415	175	.....	S 36x5	S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	G	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Tim 65706DH	W	F	8.5	63.0	G	Tim 15733H	Ros	156	97½	7000
Standard 2½-3½K	....	147°	170	S 36x5‡	S 36x8	Con K4	4-4½x5¼	27.2	L	FP	Sim	Lon	Str	G	Eis	Bos A‡	B. B-L	B-L 35	A	4	Spi	Tim 65600SP	W	F	8.50	45.4	A*	Tim 15300	Ros	132	83	5400
Standard 2½-3½ KS	....	147°	170	S 36x5‡	S 36x8	Con K4	4-4½x5¼	27.2	L	FP	Sim	Lon	Str	G	Eis	Bos A‡	D. B-L	B-L 55	A	4	Spi	Tim 65600SP	W	F	9.25	49.4	A*	Tim 15300	Ros	132	83	5488
†Sterling DW12-64XL	....	150	164	S 34x4	S 34x7	Wau 6XL	6-3½x4½	29.4	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 35	U	4	Cle	Wis 8317L	W	F	8.25	44.13	G	Shu 5429	Han	122¾	72¾	5300
Stewart 18X	2690	165	190	S 32x6	DS32x6	Lyc TF	6-3⅝x5	31.5	L	FP	Pie	Own	Str	V	D-R	D-R	D. Ful	Ful	U	4	U-P	Tim	W	F	7.25	47.5	G*	Tim	Ros	137 1/16	80¼	5788
*Studebaker 77	2585	158	.....	B 32x6.75	B32x6.75	Own	8-3½x4⅝	39.2	L	PC	Non	Lon	Sto	O	D-R	D-R	D. Lon	Ful	U	3	Spi	Eat	S	½	5.11	19.8	G*	Eat	Ros	118⅝	66⅝	4750
United 50	....	153	.....	S 34x4	S 34x8	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	G	Eis	A-L	D. B-L	B-L 35	U	4	Blo	Wis 6600	R	F	7.75	41.5	A*	Shu 510	Ros	132⅜	80⅜	4800
United 50C6	....	153½	.....	S 34x4	S 34x8	Con 6B	6-3¾x5	33.7	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L	B-L 35	U	4	Blo	Wis 6600	R	F	7.75	41.5	A*	Shu 510	Ros	123¾	72¼	5000
Valley	2395	150	165	P 32x6	P 32x6	Her	4-4x5	25.6	...	FP	Non	Chi	.....	.....	D-R	D-R	D. Ful	Ful	U	3	.....	Wis	R	...	Opt	Opt	...	Shu	Ros	.....	.....	.....
Valley	2495	150	165	P 32x6	P 32x6	Her	4-4x5	25.6	...	FP	Non	Chi	.....	.....	D-R	D-R	D. Ful	Ful	U	4	.....	Wis	R	...	Opt	Opt	...	Shu	Ros	.....	.....	.....
Victor 45	2495	148	193½	P 32x6	DP32x6	Her WXB	6-3x3¾	33.7	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Ful	Ful KU10	U	4	U-M	Wis 4600	S	F	6.1	40.1	G†	Shu 5410	Ros	.....	.....	4800
Wachusett L	....	170	170	S 36x5	S 36x10	Con L4	4-4½x5½	32.4	L	FP	Non	G&O	Zen	V	Bos-A	Bos-A	D.B-L	B-L 55	U	4	Spi	Tim 6560	W	F	7.75	41.5	*	Tim 1542	Ros	144	102	5200
Ward La France 2D	....	Opt	.....	S 34x4	DS34x4‡	Wau V	4-4x5	25.6	L	PC	Wau	Own	Zen	V	Apo	A-L*	D. B-L	B-L 35	U	4	M.M.	Tim 65600D	W	F	6.5	34.7	A	Shu	Ros	.....	.....	5100
White 51A	3750	170°	190	S 36x5‡	S 36x8‡	Own GRB	4-4¼x5¾	28.9	L	FP	Own	Own	Zen	V	.....	L-N‡	P. Own	Own GRBA	U	4	Spi	Own 51A	S	½	7.14	35.6	B*	Own	Own	145⅞	84⅝	6256
*Willys-Knight 25	2545	150	150	P 32x6	DP32x6	Own	6-3⅜x4¾	27.3	X	FP	Han	Own	Til	V	A-L	A-L	P. B&B	Ful GU	U	4	Blo	Wis 6617B	R	F	6.33	30.38	E*	Col	Ros	126	73¼	4920
†Willy-Knight 26	2595	198	198	P 32x6	DP32x6	Own	6-3⅜x4¾	27.3	X	FP	Han	Own	Til	V	A-L	A-L	P. B&B	Ful GU	U	4	Blo	Wis 6617B	R	F	6.33	30.38	E*	Col	Ros	126	73¼	5020
Witt-Will S	....	146	172	S 36x4‡	S 36x10	Con K4	4-4½x5¼	27.2	L	FP	Pie	Own	Zen	V	Eis	D-R	D. B-L	B-L 51	U	4	Spi	Tim 65600D	W	F	8.25	40.0	A*	Tim 15300	Ros	136⅛	79⅛	5300
Witt-Will S6	....	Opt	.....	P 32x6	DP32x6	Con R18	6-4x4¼	38.4	L	PC	.....	.....	Zen	V	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Tim 65600D	W	F	.....	.....	...	Tim 15300	Ros	.....	.....	.....
†Witt-Will R25	....	155	.....	P 32x6	DP32x6	Con 16R	6-4x4½	38.4	H	PC	.....	Per	Zen	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Tim 6500	W	F	6.5	34.78	G	Tim 14703	Ros	.....	.....	6000
Woods 51W4	....	160	172	S 36x5	S 36x10‡	Bud KBU-I	4-4x5¼	25.6	L	PC	Non	Own	Zen	V	Bos-A	.....	D. B-L	B-L 55	A	7	The	Tim 65600D	W	F	8.5	80.7	A*	Shu	Ros	138	85	5700
World D-88	....	164	178	P 34x7	DP34x7	Lyc	8-2⅞x4¾	26.4	L	PC	Han	Mod	Zen	O	A-L	A-L	P. Lon	Ful	U	4	Blo	Tim	S	F	7.8	46.8	F	Shu	Han	142	87½	5560

| | | |

Trade Name and Model	General: Chassis Price	General: Standard Wheelbase (inches)	General: Maximum Wheelbase furnished	General: Tire Size: Front (inches)	General: Tire Size: Rear (inches)	Engine: Make and Model	Engine: Number of Cylinders Bore and Stroke	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
3 Ton—Cont'd																																
Kleiber Spec	4350	163	.....	S 36x5	S 36x12	Bud BUS	6-4x5½	38.4	L	PC	Non	R-T	Str	V	Bos-R	Bos-A	D. B-L	B-L 60	.....	4	.....	Tim 65700SP	...	...	.....	.....	...	Tim 1544B	Ros	.....	.....	.....
Lange M	5100	140	222	P 38x7	DP38x7	Her YXC	6-4¾x4¾	45.9	L	PC	Non	Own	Zen	V	Bos-R	Non	D. B-L	B-L 60 Max	A	7	Cle	Wis 1402	R	F	9.12	86.6	A*	Tim 15300	Ros	102	69½	6950
Lange H-1	4250	156	195	S 36x5	S 36x10	Her YXB	6-4x4¾	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 55	U	4	Cle	Tim 65700D	W	F	9.33	50.0	A*	Tim 15300	Ros	139½	85½	6850
Larrabee Deyo 60	....	184	220	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	PC	Non	Per	Zen	...	D-R	D-R	D. B-L	B-L	U	4	Spi	Tim	W	F	Opt	Opt	E†‡	Tim	Ros	156	92⅝	.....
Le Moon HB30	3950	182	182	P 36x8	DP36x8	Wau 6KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Str	G	A-L	A-L	D. B-L	B-L 51	U	4	Spi	Tim 65706D H	W	F	6.00	3 2.10	G	Tim 15733H	Ros	162	105	6000
Le Moon HB31	3750	182	182	S 36x5	S 36x10	Wau 6KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Str	G	A-L	A-L	D. B-L	B-L 51	U	4	Spi	Tim 65706D H	W	F	7.25	3·8.78	G	Tim 15733H	Ros	162	105	6000
Le Moon H3V	5650	211	211	P 36x8	DP36x8	Wau 6KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Str	G	A-L	A-L	D. B-L	B-L 51	U	4	Spi	Wis 1261K	R	F	6.38	3 4.13	A	Tim 1560	Ros	198	125½	8000
Maccar 64	....	177	220	S 36x5	DS36x5	Bud YBUI	4-4½x6	32.4	L	PC	Pie	Own	Zen	V	D-R	D-R	D. B-L	B-L 55	A	4	Spi	Tim 65700S	W	F	8.5	45.4	A‡	Tim 15302	Ros	151⅛	95⅛	7500
Maccar 66	....	177	220	S 36x5	DS36x5	Bud BA	6-4½x5½	40.8	L	PC	Pie	Own	Zen	V	D-R	D-R	D. B-L	B-L 55	A	4	Spi	Tim 65700S	W	F	8.5	45.4	A‡	Tim 15302	Ros	151⅛	95⅛	7500
*Mack AB	3500	146½°	.....	S 36x4	DS36x4	Own AB	4-4¼x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB	U	4	Spi	Own AB	C	D	*8.87	43.0*	B*	Own AB	Own	.....	.....	.....
*Mack AB	3950	164½°	.....	S 36x4	DS36x4	Own AB	4-4¼x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB	U	4	Spi	Own AB	R	F	*9.25	44.9*	B*	Own AB	Own	.....	.....	.....
*Mack BJ	5900	168½°	.....	S 36x8	DP36x8	Own BK	6-4½x5½	48.6	L	PS	Non	Own	Str	V	N-E	N-E	P. Own	Own AL	A	4	Spi	Own AL	R	F	*4.25	22.4*	G*	Own AK	Own	.....	.....	.....
†Master-Eagle 6-20	....	142	.....	P 32x6	DP32x6	Her	6-3¾x4½	33.7	...	...	...	...	...	...	A-L	A-L	D. B-L	B-L	U	4	Cle	Tim	W	F	.....	.....	I†	Tim	Ros	116	...	5400
Moreland B-6	2200	158½	.....	P32x6	P32x6	Con 16C	6-3⅝x4⅝	27.3	L	PC	Non	Lon	Zen	O	A-L	A-L	D. B-L	B-L 35	U	4	Cle	Tim 63721H	W	F	7.25	34.8	G†	Tim 14703H	Ros	132	78	4500
Noble 166	....	180	.....	P 34x7	DP34x7	Bud BA6	6-4½x5½	40.8	L	PC	Pie	Chi	Str	V	A-L	A-L	D. Ful	Ful	A	4	Blo	Tim 65706DHP	W	F	6.00	27.8	G†	Tim 15733H	Ros	149	101	7200
Oneida CC9	....	160°	.....	P 34x7	DP34x7	Wau 6XL	6-3½x4½	29.4	L	PS	Non	Per	Str	V	A-L	A-L	D. Ful	Ful GCL	A	4	Pet	Tim 65660	W	F	8.5	.....	A	Shu 550	Ros	...	...	7200
†Oshkosh H	4350	146	165	S 36x8	S 36x12	Her G	4-4¾x5¾	36.1	L	PC	Her	Own	Str	V	Bos-R	.....	D. B-L	B-L	U	4	Blo	Own H	R	F	8.94	47.8	B	Own H	Han	114½	83½	8200
†Oshkosh H6	4450	146	165	S 36x8	S 36x12	Her YXB	6-4x4¾	38.4	L	PC	Her	Own	Zen	V	Bos-R	.....	D. B-L	B-L	U	4	Blo	Own H	R	F	8.94	47.8	B	Own H	Han	114½	83½	8300
Pierce-Arrow XB	3750	150	180	S 36x5‡	DS36x5‡	Own XB	4-4x5½	25.6	T	FP	Own	Own	Str	P	D-R	D-R	D. Own	Own AB	A	4	Spi	Own XB	W	½	9.25	48.1	A*	Own XB	Own	125⅛	72⅛	6280
Rehberger B	....	162	180	S 36x5	S 36x10	Bud YBU	4-4½x6	32.4	L	PC	K.P.	Bus	Zen	V	Eis	D-R	D- B-L	B-L 51	U	4	Spi	Tim 6566	W	F	8 5	46.2	A*	Shu 5550	Ros	146¼	90	6460
*Relay 60C	4480	175	.....	P 36x6	S 36x12	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Own 60	R	F	7.88	5.85	G	Tim 15733H	Ros	156	97½	7450
Reo GA	2035	163	.....	P 32x6	DP32x6	Own	6-3⅜x5	27.3	L	PC	K.P.	Own	Sch	V	D-R	D-R	D. B-L	Own	U	4	Pet	Own	S	F	6.22	41.5	E†	Own	Han	.....	.....	.....
Reo GC	2140	179	.....	P 32x6	DP32x6	Own	6-3⅜x5	27.3	L	PC	K.P.	Own	Sch	V	D-R	D-R	D. B-L	Own	U	4	Pet	Own	S	F	6.22	41.5	E†	Own	Han	.....	.....	.....
Reo GD	1985	134	.....	P 32x6	DP32x6	Own	6-3⅜x5	27.3	L	PC	K.P.	Own	Sch	V	D-R	D-R	D. B-L	Own	U	4	Pet	Own	S	F	6.22	41.5	E†	Own	Han	.....	.....	.....
†Republic H-I	....	163°	.....	P 34x7	DP34x7	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	B	F	5.5	35.75	G*	Eat	Han	147¾	84	5750
†Republic L-1	....	180°	.....	P 36x8	DP36x8	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	R	F	7.5	48.75	G*	Eat	Han	165	101½	6400
Republic 25W	....	165°	.....	S 36x5	S 36x10	Wau CU	4-4⅜x5¾	30.6	L	PC	Wau	Own	Zen	V	Bos-A	A-L	D. Ful	Ful	U	4	U-M	Eat	I	D	8.40	40.3	B*	Eat	Jac	144¾	89	5800
Republic 65	....	179°	.....	P 34x7	DP34x7	Lyc TS	6-3⅞x5	36.2	L	PS	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	R	F	7.5	36.0	G*	Eat	Han	165	100½	6100
Schacht 65	....	151	198	S 36x5	S 36x12	Wau KU	6-4¼x4¾	43.3	L	PC	Han	Own	Zen	G	Bos-A	Non	D. B-L	B-L 60	A	7	Spi	Own	R	F	10.3	65.0	A‡	Own	Ros	152	95⅛	7500
*Selden Roadmaster 39C	....	164	190½	P 32x6	DP32x6	Con 16R	6-4x4½	38.4	L	FP	Non	Own	Str	V	D-R	Bos-A	D. B-L	B-L 35	U	4	.....	Tim 56000	S	½	Opt	Opt	A‡	Tim 14703H	Ros	120	78½	5800
*Service 60Z	4480	175	.....	S 36x5	S 36x12	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Tim 65706DH	W	F	8.5	63.0	G	Tim 15733	Ros	156	97½	7100
†Sterling DW13-65XK	....	150	164	S 34x4	S 34x7	Wau 6XK	6-3¾x4½	33.7	L	FP	Wau	Hex	Zen	V	.....	.....	L-N	D. B-L	U	5	Har	Wis 8317L	W	F	8.25	49.17	G	Shu 5429	Han	122¾	72¾	5500
*Studebaker 88	2985	184	.....	B 7.50/20	B 7.50/20	Own	8-3½x4⅝	39.2	L	PC	Non	Lon	Str	O	D-R	D-R	D. Lon	Ful	U	3	Spi	Eat	S	½	5.11	19.8	G*	Eat	Ros	144⅝	92⅝	4920
U. S. 30	3375	Opt	215	S 36x5	S 36x10	Bud DW	6-3¾x5	33.7	L	PC	Bud	Own	Str	V	A-L	A-L	D. B-L	B-L 51	A	4	Blo	Tim 65706D	W	F	8.5	45.5	B*	Shu 5550	Ros	149	95	6300
U. S. 31	3275	156°	179	S 36x5	S 36x10	Bud EBU-I	4-4¼x5½	28.9	L	PC	Bud	Own	Str	V	Spi	A-L	D. B-L	B-L 51	A	4	Blo	Tim 65706D	W	½	8.5	45.5	B*	Shu 5550	Lav	160	101	6300
Valley	3495	145°	.....	P 34x7	P 34x7	Her	4-4¼x5¾	28.9	...	FP	Non	Chi	.....	...	D-R	D-R	D. Ful	Ful	U	6	.....	Wis	R	...	Opt	Opt	...	Shu	.....	.....	.....	.....
Valley	3295	145°	.....	P 38x7	P 38x7	Her	4-4¼x5¾	28.9	...	FP	Non	Chi	.....	...	D-R	D-R	D. Ful	Ful	U	4	.....	Wis	R	...	Opt	Opt	...	Shu	.....	.....	.....	.....
Victor 70	3495	162	.....	P 34x7	P 40x8	Her WXC	6-4x4½	38.4	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Ful	Ful MGU	U	4	U-M	Wis 8913	D	R	7.85	55.1	G†	Shu 5550	Ros	.....	.....	5800
Ward La France 2B	....	Opt	.....	S 36x5	DS36x5	Wau CU	4-4⅜x5¾	30.6	L	PC	Wau	Own	Str	G	Apo	A-L	D. B-L	B-L 51	A	4	Spi	Tim	W	F	7.25	38.8	A‡	Tim	Ros	.....	.....	5900
Ward La France 2B6	....	Opt.	.....	P 36x6	DP36x6	Wau 6KU	6-4¼x4¾	43.3	...	FP	Wau	Own	Zen	V	Bos-R	A-L	D. B-L	B-L 51	A	4	Spi	Tim	W	F	7.25	38.8	B‡	Shu 5550	Ros	.....	.....	.....
Whitcomb 6-wheeler	....	Opt	Opt	P 36x8	P 36x8	Wis Z	6-4½x5	48.6	I	FP	Non	Mod	Str	O	L-N	L-N	D. Ful	Ful	U	4	Own	Own	W	F	Opt	Opt	G	Own	Ros	.....	.....	.....
White 58	4400	180°	195	S 36x5‡	DS36x5‡	Own GRB-I	4-4¼x5¾	28.9	L	FP	Own	Own	Zen	V	L-N‡	L-N‡	P. Own	Own 2B	U	4	Spi	Own	R	F	7.6	49 7	B*	Own	Own	148½	91½	7535
Witt-Will SS	....	168°	172	S 36x4‡	S 36x10	Con K4	4-4½x5¼	27.2	L	FP	Pie	Own	Zen	V	Eis	D-R	D. B-L	B-L 55	U	4	Spi	Tim 65700D	W	F	9.25	40.0	A*	Tim 15300	Ros	136⅛	79⅛	5700
Witt-Will S-L	....	Opt	.....	S 36x5	S 36x12	Con L4	4-4½x5½	32.4	L	FP	Pie	Own	Zen	V	Eis	D-R	D. B-L	B-L 55	U	4	Spi	Tim 65700D	W	F	Opt	Opt	A*	Tim 15300	Ros	.....	.....	5850
Witt-Will SL6	....	.....	.....	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	L	PC	Pie	Own	Zen	V	D-R	D-R	D. B-L	B-L 55	U	4	Spi	Tim 65706B	W	F	.....	.....	...	Tim 15300	Ros	.....	.....	.....
†Witt-Will R3	....	165	.....	P 36x8	DP36x8	Con 18R	6-4x4¼	38.4	H	PC	.....	Per	Zen	V	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Tim 65706	W	F	6.8	36.38	G	Tim 14703	Ros	.....	.....	6500
Woods 53 W 6	....	160	184	P 34x7	P 36x8	Bud DW6	6-3¾x5	33.7	L	PC	Non	Chi	Zen	V	D-R	D-R	D. B-L	B-L 55	A	7	Blo	Tim	W	F	7.75	.....	F†	Tim	Ros	141	105	6000
World D-115	....	168½	.....	P 36x8	DP36x8	Lyc	8-3¼x4½	33.8	L	PC	Han	Mod	Zen	O	A-L	A-L	P. Lon	B-L	U	4	Spi	Tim	S	F	7.8	Opt	F	Shu	Ros	144¼	88¼	6100
3½ Ton																																
American La France W	....	Opt	201¾	S 36x5	S 36x10	Own 2R	4-4¼x6	28.9	L	PS	Own	Bus	Zen	V	Bos-A	Bos A‡	D. Own	Own 2R	A	4	Own	Own 2R	R	F	7.57	40.6	B*	Own 2R	....	132	81⅛	6600
Autocar HS	4100	114	203	S 34x6	S 36x12	Own	4-4½x5½	32.4	L	SP	Pha	Own	Str	V	Bos-A	L-N	P. Lon	Own T	U	4	Spi	Own J	R	F	8.72	55.28	B	Own J	Ros	131½	76	6900
Autocar SHS	4400	114	203	S 34x6	S 36x12	Own	6-4x5⅜x5½	45.9	L	PC	Han	Own	Str	V	Bos-R	L-N	P. Lon	Own T	U	4	Spi	Own J	R	F	8.72	55.28	B	Own J	Ros	131½	76	7000
Autocar TAS	5350	187	213	P 36x8	DP36x8	Own	6-4⅜x4¾	45.9	L	PC	Han	Own	Str	V	Bos-R	L-N	P. Lon	Own T	U	4	Spi	Own J	R	F	7.24	46.55	B	Own J	Ros	175¼	104¾	7100
Biederman	....	180°	220	S 36x6	S 36x12	Con 6B	6-3¾x5	33.7	L	PC	Han	Own	Zen	G	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Tim	W	F	9.5	52.0	A*	Shu	Ros	164	.....	7000
Chicago 35C	....	Opt	Opt	S 36x5	S 36x10	Wau CU	4-4⅜x5¾	30.6	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 55 Max	A	7	Pet	Tim 66702DH	W	F	10.33	98.1	B†	Tim 16302	Ros	Opt	Opt	8570
Clinton 85-6	....	190	Opt	P 34x7	DP34x7	Bud BUS	6-4x5½	38.4	L	FP	Non	Per	Str	V	Spi	D-R	B-L	B-L 55	A	4	Blo	Tim 65600SP	W	F	7.75	73.6	B*	Tim 15302	Ros	Opt	Opt	5975
Coleman D40X	....	130	184	P 40x8	P 40x8	Bud BA	6-4½x5½	40.8	L	FP	Bud	R-T	Zen...	V	D-R	D-R	D. Ful	Ful RU16	U	8	Spi	Wis	R	F	8.33	159.0	E	Wis	Ros	144	89	8900
*Commerce 70Z	5250	175	.....	S 36x6	S 36x12	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60 Max	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8200
Concord JLX-6	....	202¼	222¼	P 34x7	DP34x7	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	4	Blo	Tim 65706D	W	F	6.1	32.6	B‡	Tim 15300	Ros	Opt	Opt	7000
Diamond T700	....	172	202	S 36x5	S 36x10	Her YXC	6-4⅜x4¾	45.9	L	PC	Han	G&O	Zen	G	A-L	A-L	D. Cov	Cov	U	4	Spi	Tim	W	F	10.3	52.2	B†‡	Tim	Ros	.....	.....	8100
Dixon	4500	160	.....	S 36x5	S 36x10	Her G	4-4⅜x5¾	36.1	L	PC	Pie	G&O	Zen	V	Eis	D-R	D. Ful	Ful	U	4	Spi	Tim 6666	W	F	8.75	45.0	A	Shu 610	Ros	.....	.....	6600
Duplex EF	....	130	.....	S 36x8	S 36x8	Bud EBU-I	4-4¼x5½	28.9	L	PS	Non	Lon	Zen	V	Eis	A-L	D. B-L	B-L	U	8	Pet	Own	I	...	8.00	86.0	A*	Own	Woh	.....	.....	6500
Federal 3C6	4200	191	230	P 36x8	DP36x8	Con 20R	6-4½x4¾	40.8	I	PC	Con	Lon	Zen	V	D-R	D-R	P. B&B	B-L 55	A	7	Pet	Tim 65706DP	W	F	6.8	64.6	B‡	Own	Gem	180	106¾	7350
Federal UL7	3600	163	199	S 36x5‡	S 36x10‡	Con L4	4-4½x5½	32.4	L	FP	Pie	Lon	Zen	V	Eis	D-R	P. B&B	B-L 55	A	7	Pet	Tim 65706DP	W	F	8.5	80.75	B*	Own	Gem	126	85¾	6550
F.W.D. U-6	4575	148	.....	S 36x6	S 36x6	Wau	6-4x4¾	38.4	L	PC	Wau	Per	Zen	V	Eis	Non	O. H-S	Own	A	5	Blo	Own U	B	F	8.9	88.6	B	Own U	Ros	132	93	7200
*Garford 70Z	5250	175	.....	S 36x6	S 36x12	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60 Max	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8200
General Motors T60	3160	140°	200	P 36x8	DP36x8	Buick	6-3⅝x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	U	4	Spi	Tim 65706N	W	F	7.25	44.81	G*	Eat 526F	Jac	100	59	6208
Gotfredson W64A	....	160	180	S 36x5	S 36x10	Bud YBUI	4-4½x6	32.4	L	PC	Pie	MeC	Zen	V	Bos-R	D-R	D. B-L	B-L 55 Max	A	7	Spi	Tim 65706DP	W	F	9.33	88.64	G	Tim 15730H	Ros	.....	.....	6500

| | | |

Key of abbreviations, page 78

Trade Name and Model	General					Engine									Electrical System		Clutch	Gearset			Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase		Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size		Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System		Ignition System (Make)	Generator and Starter (Make)	Type and Make	Make and Model	Location	No. of Forward Speeds	Universals (Make)	Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low				Cab to rear of frame	Cab to rear axle	
				Front (inches)	Rear (inches)							Carburetor (Make)	Fuel Feed																		
4 Ton—Cont'd																															
Kenworth N.	4395	170	200	S 36x6‡	S 40x12	Bud YBU	4-4½x6	32.4	L	PC	Bud	Per	Zen	V	Bos-R	D-R	D. B-L	B-L 60	A	4	Spi	Tim 66702D	W	F	8.75	53.3	A*	Tim 16302	Ros	126	93	8800
Kissel Heavy Duty	.....	168	.....	S 36x5‡	S 36x12‡	Wau DU	4-4½x6¼	32.4	L	PC	Pie	McC	Str	V	Eis	D-R‡	D. W-G	Ful H	A	4	Spi	Tim 16302	W	½	11.7	73.6	A*	Tim 16700	Ros	.....	.....	7600
Kleiber	5000	202	.....	P 36x8	DP36x8	Bud BA6	6-4½x5½	40.8		PC	.....	Fed	Str	V	Bos-R	.....	D. B-L	B-L	A	7	Spi	Tim 65700SP	W	F	Opt	.....	A*	Tim 15302	Ros	.....	.....	7500
Lange F6	4650	168°	183	S 36x5	S 36x12	Her YXC	6-4⅜x4¾	45.9	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 55	A	4	Cle	Tim 66700	W	F	10.5	56.0	A*	Tim 16300	Ros	159½	104½	8900
Le Moon H46	.....	184	192	P 36x8	P 36x8	Wau 6KU	6-4¼x4¾	43.3		FP	Wau	Chi	Str	V	A-L	A-L	D. B-L	B-L 51	U	5	Opt	Tim 6370H	W	F	6.25	46.31	G	Tim 16302	Ros	162	105	.....
Maccar 84	.....	177	209¼	S 36x6	DS36x6	Bud YBUI	4-4½x6	32.4		PC	Pie	Bus	Str	V	Bos-R	D-R	D. B-L	B-L 55	A	4	Spi	Tim 66702D	W	F	9.66	51.7		Tim 16302	Ros	148	92½	8200
Maccar 86	.....	177	209¼	S 36x6	DS36x6	Bud BA-6	6-4½x5½	40.8		PC	Pie	Bus	Str	V	Bos-R	D-R	D. B-L	B-L 55	A	4	Spi	Tim 66702D	W	F	9.66	51.7		Tim 16302	Ros	.....	.....	8200
*Mack BJ	5800	168½°	.....	S 36x8	DS36x8	Own BK	6-4½x5½	48.6	L	PS	Non	Own	Str	V	N-E	N-E	P. Own	Own AL	A	4	Spi	Own AL	R	F	4.25*	22.4*	G*	Own AK	Own	.....	.....	.....
†Master-Eagle 6-30	.....	154	.....	P 34x7	DP34x7	Her	6-4x4½	38.4							A-L	A-L	D. B-L	B-L	U	4	Cle	Tim	W	F	.....	.....	I†‡	Tim	Ros	135	.....	6000
Pierce-Arrow WC	5100	162	180	S 36x5‡	DS36x6	Own WC	4-4½x6¾	32.4	T	FP	Own	Own	Str	P	D-R	D-R	D. Own	Own WC	U	4	Spi	Tim 6666	W	F	8.75	46.8	A*	Tim 16302	Ros	157¾	102	7940
Rehberger C	.....	174	192	S 36x6	S 36x12	Bud YBU	4-4½x6	32.4	L	PC	K.P.	Bus	Zen	V	Eis	D-R	D. B-L	B-L 55	U	4	Spi	Tim 6666	W	½	9.95	84.18	A	Tim 16302	Ros	144	94½	8800
Relay 80C	5330	175	.....	P 36x6	S 40x14	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	P. B&B	Cov SHO	A	8	Blo	Own 74	R	F	9.95	84.18	A	Tim 16302	Ros	144	94½	8800
†Republic M1	.....	171°	.....	P 36x8	DP36x8	Wau 6KS	6-4x4¾	38.4	L	PC	Wau	Own	Zen	V	A-L	A-L	D. B-L	B-L	U	5	U-M	Eat	R	F	8.85	53.0	B*	Tim 16300	Lav	139	89½	6600
*Selden 47CD	.....	151	184	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	L	FP	Non	Own	Str	V	D-R	.....	D. B-L	B-L	A	7	Spi	Wis	R	...	.....	.....	A*	Tim 15733H	Ros	108	71	6900
*Service 80Z	5330	175	.....	S 36x6	S 36x14	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8400
†Sterling DW18-64KS	.....	166	180	S 36x5	S 36x10	Wau 6KS	6-4x4¾	38.4	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 55	U	4	Har	Tim 65704	W	F	8.5	45.47	A	Tim 15300	Ros	147	86	6850
Stewart 22X	4200	165	235	S 36x5	S 36x12	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Own	Str	G	D-R	D-R	D. Ful	Ful	A	12	Spi	Tim	W	F	10.5	151.6	A	Sal	Ros	136¼	79½	7990
United 40D	.....	124¼	.....	P 34x7	DP34x7	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	G	Eis	A-L	D. B-L	B-L 35	U	4	Blo	Wis 6600	R	F	7.75	41.46	A*	Shu 510	Ros	70⅜	54½	5100
U. S. 40	4050	168°	185	S 36x6	S 36x12	Bud YBU-I	4-4½x6	32.4	L	PC	Bud	Own	Str	V	Spi	A-L	D. B-L	B-L 55	A	4	Blo	Tim 66700D	W	F	10.3	54.8	B‡	Tim 16300	Lav	156	104	7900
Valley	3495	145°	.....	P 36x7	P 36x7	Her	4-4½x5¾	32.4		FP	Non	Chi	.....		D-R	D-R	D. Ful	Ful	U	4	.....	Wis	R	...	Opt	Opt	...	Shu	Ros	.....	.....	.....
Ward La France 4D	.....	Opt	.....	S 36x5	DS36x6	Wau DU	4-4½x6¼	32.4	L	PC	Wau	Own	Zen	G	Bos-R	A-L	D. B-L	B-L 60 Max	A	7	Spi	Tim 66900	W	F	9.5	90.2	B‡	Tim 16300	Ros	.....	.....	8750
Ward La France 4D6	.....	Opt	.....	S 36x5	DS36x6	Wau 6KU	6-4¼x4¾	43.3	L	PC	Wau	Own	Zen	G	Bos-R	A-L	D. B-L	B-L 60 Max	A	7	Spi	Tim 66900	W	F	9.5	90.2	B‡	Tim 16300	Ros	.....	.....	8750
Witt-Will A4	.....	172°	192	S 36x6	DS40x6	Con B5	4-4¾x6	36.1	L	PC	Pie	Own	Zen	G	Eis	D-R	D. B-L	B-L 60	A	4	Spi	Tim 66700D	W	F	10.2	53.3	A*	Tim 16300	Ros	139	89	9200
*Witt-Will R35	.....	.....	.....	.....	.....	Con R20	6-4½x4¾	40.8	L	PC	Pie	Own	Zen	V	D-R	D-R	D. B-L	B-L 55	A	7	Spi	Tim 66700D	W	F	.....	.....	...	Tim 16300	Ros	.....	.....	.....
4½ Ton																															
*Acme 90L	.....	192	.....	S 36x5	S 40x12	Con B7	4-5x6	40.0	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L	B-L 60	A	7	Blo	Tim 66600	W	F	8.75	83.5	A	Tim 16300	Ros	168⅝	105⅞	8400
American La France S	5200	Opt	Opt	S 36x6	DS40x6	Own 5R	4-4¾x6	36.1	L	PS	Own	G&O	Zen	V	Bos-A	L-N	Own 5R	Own 5R	A	4	Own	Own 5R	W	F	10.0	54.4	B*	Own 3R	Ros	Opt	Opt	8900
General Motors T-60	3160	140°	200	P 36x8	DP36x8	Buick	6-3½x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	D. Mun]		U	4	Spi	Tim 65706N	W	F	7.25	44.81	G*	Eat 526F	Jac	100	59	6208
Republic 30W	.....	170°	.....	S 36x5	S 36x12	Wau CU	4-4¾x5¾	30.6	L	PC	Wau	Own	Zen	V	Bos-A	A-L	D. Ful	Ful	U	4	U.M	Eat	I	D	10.2	49.2	B	Shu	Han	145¾	90	6700
†Sterling DC 19-64XK	.....	163	177	S 36x5	S 36x10	Wau 6xK	6-3¾x4½	33.7	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 51	U	4	Har	Own	C	D	.....	57.78	D	Tim 15300	Ros	149¾	85¾	6500
5 Ton																															
Acorn 100	4800	160	.....	S 36x6	S 40x14	Bud YBUI	4-4½x6	32.4	L	PC	McC	Chi	Zen	G	Bos-R	.....	D. Ful	B-L 60	U	8	Pet	Tim 67700	W	F	Opt	Opt	A	Tim 1632	Ros	.....	.....	9000
Amer. La France V	5500	Opt	Opt	S 36x6	DS40x6	Own 5R	4-4¾x6	36.1	L	PS	Own	Bus	Zen	V	Bos-A	Bos A‡	D. Own	Own 5R	A	4	Own	Own 5R	W	F	10.0	54.4	B*	Own 5R	.....	Opt	Opt	9600
Am. La France Big Ch	6500	226	196	P 40x8	DP40x8	Bud GL6	6-4½x6	48.6	L	FP	Bud	G&O	Str	V	D-R	D-R	P. B-L	Own	A	4	Own	Own 16R	W	F	6.13	33.0	A	Own 16R	Own	209	139	11000
Atterbury 24E	.....	174°	204	S 36x6	DS40x7	Con B7	4-5x6	40.0	L	FP	Pie	Fed	Zen	V	A-L	Bos-A	D. B-L	B-L 60 Max	A	7	Spi	Own M	R	F	9.89	72.1	B	Own CL	Ros	140	81	8600
Autocar SCM	5000	162	213	S 34x7	S 36x14	Own	6-4½x4¾	48.6	L	PC	Han	Own	Str	G	D-R	D-R	D. B-L	B-L 60	U	7	Spi	Tim	W	F	11.5	60.6	A*	Shu	Ros	164	.....	9200
Biederman	.....	180°	200	S 36x7	S 36x14	Con 7T	6-4¼x6	43.3	L	PC	Han	Own	Zen	G	D-R	D-R	D. B-L	B-L 60	A	7	Spi	Tim 68700S	W	F	10.0	53.5	B*	Tim 17300	Ros	182	105½	10065
Brockway T	.....	175°	205½	S 36x6	S 40x14	Con B7	4-5x6	40.0	L	FP	K.P.	Bus	Zen	V	Eis	L-N‡	D. B-L	B-L 60	A	7	Spi	Tim 68700S	W	F	10.0	95.0	B*	Tim 17300	Ros	188	108½	10500
Brockway T-18	.....	178°	208¼	S 36x6	S 40x14	Con B7	4-5x6	40.0	L	FP	K.P.	Bus	Zen	V	Eis	L-N‡	D. B-L	B-L 60 Max	A	7	Spi	Tim 68700S	W	F	8.80	47.1	A†	Tim 17300	Ros	Opt	Opt	9550
*Clinton 120L	.....	204	Opt	S 36x6	DS40x7	Bud BTU	4-5x6½	40.0	L	PC	Bud	Own	Zen	V	Spi	Bos-A	D. B-L	B-L 60	A	4	Blo	Tim 68702DHP	W	F	8.80	83.6	A†	Tim 17300	Ros	Opt	Opt	9650
*Clinton 120LM	.....	204	Opt	S 36x6	DS40x7	Bud BTU	4-5x6½	40.0	L	FP	Bud	Own	Zen	V	Spi	Bos-A	D. B-L	B-L 60 Max	A	7	Blo	Tim 68702DHP	W	F	8.80	83.6	A†	Tim 17300	Ros	Opt	Opt	9650
Coleman X-100	.....	144	184	P 42x9	P 42x9	Bud BA6	6-4½x5½	40.8	L	FP	Bud	R-T	Zen	V	D-R	D-R	D. Ful	Ful RU16	U	8	Spi	Wis 122	R	F	8.54	140.3	E	Wis 122F	Ros	168	105	9660
Coleman X100F	.....	144	184	P 42x9	P 42x9	Bud GL	6-4½x6	48.6	L	FP	Bud	Per	Str	V	D-R	D-R	D. Ful	Ful HU16	U	8	Spi	Wis 122	R	F	8.54	175.0	E	Wis 122F	Ros	168	105	9820
Corbitt 70	.....	178	230	S 36x6	DS40x6	Con B7	4-5x6	40.0	L	FP	Sim	Per	Zen	V	Eis	L-N‡	D. B-L	B-L 60 Max	A	7	Spi	Tim 67700D	W	F	10.0	95.0	A‡	Tim 17300	Ros	164	108	9410
*Day-Elder L6	.....	170°	196	S 36x6	DS40x7	Con 21R	6-4⅜x4¾	45.9	L	FP	Con	Bus	Zen	V	D-R	D-R‡	D. B-L	B-L 60	A	4	Spi	Tim 67700D	W	F	10.2	64.6	A	Tim 17300	Gem	130½	79½	10000
Denby 210	.....	170	.....	S 36x6	DS40x6	Con B5	4-4¾x6	36.1	L	PC	.....	Lon	Zen	G	Eis	.....	D. Ful	Ful HU	A	4	U-P	Cla	...	D	12.5	62.7	...	Tim	Ros	.....	.....	8590
Diamond T 1000	.....	170½°	200½	S 36x6	S 40x12	Her YXC2	6-4½x4¾	48.6	L	PC	Han	G&O	Zen	G	A-L	A-L	D. Cov	Cov	U	4	Spi	Tim	W	F	.....	.....	B†‡	Tim	Ros	.....	.....	10000
Dixon	4800	160	.....	S 36x5	S 36x12	Her G	4-4¾x5¾	36.1	L	PC	Pie	G&O	Zen	V	Eis	D-R	D. Ful	Ful	A	8	Spi	Tim 6666	W	F	8.75	137.0	A	Shu 610	Ros	.....	.....	8100
Duplex M 5-7	.....	Opt	.....	P 34x7	DS36x7	Bud GL6	6-4½x6	48.6	L	FP	.....	Mod	Str	V	A-L	A-L	D. B-L	B-L 70	.....	7	Pet	Tim 68700	W	F	Opt	Opt	A*	Shu	Ros	.....	.....	10000
F.W.D. MF6	5000	148	.....	S 36x8	S 36x10	Wau	6-4¼x4¾	43.3	L	PC	Wau	Per	Zen	V	Eis	Non	O. H-S	Own	A	5	Blo	Own M	B	F	8 9	88.6	B	Own M	Ros	132	93	7775
*Freeman BA	.....	144°	.....	P 36x8	DP36x8	Bud BA6	6-4½x5½	48.6		FP	Bud	Lon	Str	V	Bos-R	Bos-R	D. Ful	Ful HU16	U	8†	Cle	Own	I	F	8.53	15.54	E	Own	Woh	.....	.....	.....
General Motors K-102	4250	160°	184	S 36x6	S 40x14	Own 89	4-4½x6½	32.4	L	FP	K.P.	McC	Mar	V	Eis	D-R	D. Own	Own	A	7	Own	Tim 67600	W	F	10.0	86.3	A‡	Tim 1732	Own	.....	.....	9245
G-P 92-4	.....	158	Opt	P 38x7	DP40x8	Wau ER	4-5x6¼	40.0	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 55	U&A	7	M.M.	Tim 68700	W	F	8.73	.....	...	Tim 17300	Ros	.....	.....	9600
G-P 92-6	.....	158	Opt	P 38x7	DP40x8	Wau 6AB	6-4½x4¾	48.6	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 55	U&A	7	M.M.	Tim 68700	W	F	8.73	.....	...	Tim 17300	Ros	.....	.....	9600
Gramm 60	5370	153°	200	S 36x6	S 36x14	Her G	4-4¾x5¾	36.1	L	PC	Pie	Own	Zen	V	A-L,	A-L	D. Ful	Ful H	A	8	Blo	Wis 1700	R	F	7.33	82.0	B*	Wis 30	Ros	138	83¾	8700
Gramm 60	5370	153°	200	S 36x6	S 36x14	Lyc TS	6-3⅞x5	36.2	L	FP	Han	Own	Zen	V	A-L	A-L	D. Ful	Ful H	A	8	Blo	Wis 1700	W	F	7.33	82.0	B*	Wis 30	Ros	138	83¾	8700
Gramm-Bernstein 40	.....	156°	176	S 36x5	DS36x5	Con L4	4-4½x5½	32.4	L	PC	Pie	Own	Str	G	Eis	A-L	D. Ful	Ful H1	A	8	Own	She	W	½	8.75	93.6	B*	Shu 610	Ros	144	87¾	8360
Gramm-Bernstein 50	.....	168°	188	S 36x6	DS40x6	Con B7	4-5x6	40.0	L	PC	Pie	Own	Str	G	Eis	A-L	D. Ful	Ful H1	A	8	Own	Wis 1010F	W	F	11.75	125.7	B	Shu 610	Ros	162	97	9700
Guilder K5	5250	170	.....	S 36x6	DS40x6	Bud YTU	4-4½x6	32.4	L	PC	Pie	G&O	Zen	G	Eis	Non	D. B-L	B-L 60	A	4	M-E	Wis 1600	R	F	9.00	.....	B*	Shu 650	Ros	.....	.....	8800
Guilder K-6	5450	174	190	P 36x8	DP36x8	Bud BA6	6-4½x5½	40.8	L	FP	Non	G&O	Zen	V	D-R	D-R	D. B-L	B-L 55	U	4	Spi	Tim 66700	W	F	Opt	Opt	B	Shu 650	Ros	.....	.....	7850
Hahn R	.....	162°	200	S 36x6	S 40x12	Con B5	4-4¾x6	36.1	L	FP	Pha	Chi	Str	G	Bos-R	L-N	D. B-L	B-L 60	U	4	Spi	Tim 6760	W	F	10.25	.....	A	Tim 1632B	Ros	164	94	8450
Hendrickson V4	5300	.....	.....	S 36x7	S 40x14	Wau EU	4-5x6¼	40.0	L	FP	Wau	Chi	Zen	G	Spl	Bos-R †	D. B-L	B-L 70	A	7	Spi	Tim 67600D	W	F	Opt	Opt	G‡	Tim 17300	Ros	Opt	Opt	9800
Hug 96	.....	135	.....	P 36x8	DP36x8	Bud DW6	6-3¾x5	33.7		PC	Bud	You	Zen	V	Eis	D-R	D. B-L	B-L 51	U	5	Blo	Wis 1255K	R	F	8.9	53.28	A	Shu 615	Ros	112⅞	80⅞	7400
Indiana 41	.....	172°	196	S 36x6	S 40x12	Her G	4-4¾x5¾	36.1	L	PC	Pie	Lon	Str	V	Eis	Opt	P. B&B	B-L 60 Max	A	7	Spi	Tim 68700SP	W	F	10.0	95.0	B*	Shu	Ros	156	98¾	9600
Int. Harvester 104C	.....	154°	200	S 36x6	S 40x14	Own	4-4¼x5	28.9	H	SP	Own	Own	Zen	G	Bos-R	D-R*	D. Own	Own	U	4	Own	Own	C	D	10.6	86.0	B*	Eat 74C	Own	120	82	8900
Int. Harvester HS 104C	.....	160°	235	S 36x6‡	S 40x14	Ha S 152	4-4¾x5½	36.1	H	PC	Ha S	Own	Zen	G	Bos-R	D-R*	P. Own	Own	U	5	Own	Own	C	D	10.08	90.52	E*	Eat 74C	Own	120	81⅞	10595
Kenworth S	5250	178	175	S 36x6	S 40x14	Bud BTU	4-5x6½	40.0	L	PC	Bud	Per	Zen	V	Bos-R	D-R	D. B-L	B-L 60 Max	A	7	Spi	Tim 68700SP	W	F	8.75	89.0	B*	Tim 17300	Ros	126	93	9700
Kissel Goliath	.....	168	.....	S 36x6	S 40x14	Wau DU	4-4½x6¼	32.4	L	PC	Pie	McC	Str	V	Eis	.....	P. B-L	Ful H	A	4	Spi	Tim 17300	W	½	11.75	73.6	A*	Tim 67700	Ros	.....	.....	8800
Kleiber	5400	185	.....	S 36x6‡	S 40x14‡	Con B5	4-4¾x6	36.1	L	FP	Non	R-T	Str	V	Bos-R	Non	D. B-L	B-L 60	A	4	Spi	Tim 6760	W	F	10.3	54.8	A	Tim 1730	Ros	164	104	10400
Lange T	.....	168	188	S 36x6	S 40x12	Her YXC2	6-4½x4¾	48.6	L	PC	Pie	Own	Str	V	A-L	A-L	D. B-L	B-L 60 Max	A	7	Cle	Wis 1700	R	F	10.06	.....	A	Tim 16300	Ros	150½	104½	.....

| | | |

Gasoline Tractor-Trucks

| | | |

| | | |

Electric Commercial Cars

Name and Model Number	Total Weight Resting on Four Tires	Chassis Weight—Exclusive of Battery	Minimum Load Capacity	Maximum Load Capacity	Chassis Price	Maximum Speed	Location of Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Spring	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent of Weight on Rear Wheels
O. B-B	.....	.....	.....	.....	.....	13	.....	.....	G-E	Own	....	C	D	.....	S 36x4	DS36x3½	Own	107	.....
O. B-C	.....	.....	.....	.....	.....	11	.....	.....	G-E	Own	....	C	D	.....	S 36x5	DS36x4	Own	135	.....
O. B-D.	.....	.....	.....	.....	.....	10	.....	.....	G-E	Own	....	C	D	.....	S 36x6	DS36x5	Own	143	.....
Walker 10	.....	2400	.....	1500	1750	14	H&S	60	G-E	Own	4	S	Cla	Mat	S 32x3½‡	S 32x4‡	Ros	108°	66
Walker 20	.....	3200	1500	2000	2450	15	A	50	Wes	Own	5	Own	Own	Mat	S 34x3½	S 36x4	Ros	94°	66
Walker 25	.....	3500	2000	3000	2550	14	A	50	Wes	Own	5	Own	Own	Mat	S 34x4	S 36x5	Ros	101°	66
Walker 45	.....	4400	4000	5000	3300	14	A	50	Wes	Own	5	Own	Own	Mat	S 36x4	S 36x6	Ros	114°	66
Walker 50	.....	4800	5000	6000	3450	13	A	50	Wes	Own	5	Own	Own	Mat	S 36x5	S 36x8	Ros	126°	66
Walker 65	.....	7000	7000	9000	4350	11	A	50	G-E	Own	5	Own	Own	Mat	S 36x5	DS40x5	Ros	131°	66
Walker 75	.....	7800	10000	14000	4500	10	A	50	G-E	Own	5	Own	Own	Mat	S 36x6	DS40x6	Ros	141°	66
Ward B	6500	2300	.....	.....	.....	14	S	.....	•	Own	4	W	Own	Eat	P 30x5	P 30x5	Ros	91	.....
Ward C	8400	2850	.....	.....	.....	13	S	.....	•	Own	4	W	Own	Eat	P 30x5	P 32x6	Ros	96	.....
Ward E	13000	4100	.....	.....	.....	12½	A	.....	•	Own	4	W	Wis	Eat	S 34x5	S 36x7	Ros	114	.....
Ward G	17000	4950	.....	.....	.....	11	A	.....	•	Own	5	W	Wis	Eat	S 36x8	S 36x8	Ros	128	.....
Ward K	25000	7750	.....	.....	.....	10	A	.....	•	Own	5	W	Wis	Eat	S 36x6	S 36x10	Ros	160	.....
Ward KS	30000	8075	.....	.....	.....	9½	A	.....	•	Own	5	W	Wis	Eat	S 36x7	DS36x7	Ros	160	.....

NOTE: Battery Equipment on all above makes is at the option of the purchaser. Battery Location Abbreviations: A-amidships; H-under hood; and S-under seat. *G-E or Wes

KEY OF ABBREVIATIONS

For addresses of manufacturers listed below see Chilton Catalog and Directory

Wheelbase

*More than one wheelbase furnished.

Tires

B—Balloon.
P—Pneumatics standard equip.
DP—Dual pneumatics standard equipment.
S—Solids.
DS—Dual solids.
•—Tires at extra cost.
‡—Pneumatics can be furnished at extra cost.

Engine

*Models also furnished with engine under seat.
Bud—Buda Co.
Con—Continental M. Corp.
D—Head and Side.
FP—Full Pressure to all bearings including wrist pins.
H—Overhead.
HaS—American Car & Fdy. Co.
Her—Hercules Motor Corp.
I—In Head.
Jackson—Master M. T. Mfg. Co.
L—L-Head.
Lyc—Lycoming M. Corp.
PC—Pressure to all crankshaft and connecting-rod bearings.
PG—Pump, Gravity & Splash.
PS—Pressure with splash.
SP—Circulating splash.
T—T-Head.
Wau—Waukesha M. Co.
Wis—Wisconsin M. Mfg. Co.
Yell—Yellow Sleeve V. E. Wks.
X—Sleeve.

Governor

Dup—Eisemann Magneto Corp.
Han—Handy Gov. Co.
K. P.—Handy Gov. Co.
McC—E. R. Klemm.
Mon—Monarch Gov. Co.
Non—Not Supplied.
Pha—Bethlehem Fabricators, Inc.
Pie—Pierce Governor Co.
Sim—Eisemann Magneto Corp.
Wau—Waukesha M. Co.

Radiator

Bow—Bowerbank, E. R. Co.
Bus—Bush Mfg. Co.
Chi—Chicago Mfg. Co.
Fed—Fedders Mfg. Co.
G&O—G. & O. Mfg. Co.
Har—Harrison Rad. Corp.
Hex—Hexcel Rad. Co.
Lon—Long Mfg. Co.
McC—McCord Rad. & Mfg. Co.
McK—McKinnon Dash Co.
Mod—Modine Mfg. Co.
Per—Perfex Corp.
R-T—Rome-Turney Rad. Co.
U. S.—U. S. Cartridge Co.
You—Young Rad. Co.

Fuel System

B.B.—Penberthy Injector Co.
Car—Carter Carburetor Co.
E—Electric Pump.
G—Gravity.
Mar—Marvel Carbureter Co.
O—Mechanical Pump.
P—Pressure.
Sch—Wheeler Schebler Car. Co.
Ste—Detroit Lubricator Co.
Str—Stromberg Motor Dev. Co.
Til—Tillotson Mfg. Co.
V—Vacuum.
Zen—Zenith-Detroit Corp.

Electrical Systems

‡—Generator & Starter at Extra Cost.
†—Starter not supplied, Generator at Extra Cost.
•—Starter at Extra Cost.
A-L—Electric Auto-Lite Corp.
Apo—Apollo Magneto Corp.
Bos-A—Am. Bosch Magneto Co.
Bos-R—Rob. Bosch Magneto Co.
Con.—Conn. Tel. & Elec. Co.
DJ—DeJon Elec. Corp.
D-R—Delco-Remy Co.
Dyn—Owen Dyneto Corp.
Eis—Eisemann Magneto Corp.
Exi—Electric S. B. Co.
Gor—R. J. Gorman Co., Inc.
L-N—Leece-Neville Co.
N-E—North East Elect. Co.
Non—Not Supplied.
Pol—Prest-O-Lite Co.
Sci—Scintilla Magneto Co.
Spl—Splitdorf Electrical Co.
USL—USL Battery Corp.
Ves—Vesta Battery Corp.
Wil—Willard S. B. Co.

Clutch and Gearset

*—Other ratios optional.
†—Auxiliary two-speed transmission optional.
A—Amidships.
B & B—Borg & Beck Co.
B-L—Brown-Lipe Gear Co.
Cot—Cotta Trans. Corp.
Cov—Covert Gear Co.
Det—A. J. Detlaff Co.
D-G—Detroit Gear & Mach. Co.
D—Disk.
Ful—Fuller & Sons Mfg. Co.
H-S—Merchant & Evans Co.
J—Unit with Jackshaft.
K—Cone.
Lon—Long Mfg. Co.
M. M.—Mechanics Mach. Co.
Mun—Muncie Products Div. General Motors Corp.
O—Disk in Oil.
P—Plate.
Roc—Rockford Drill. Mach. Co.
U—Unit with Engine.
W-G—Warner Gear Co.
Yell—Yellow Sleeve V. E. Wks.

Universal

B.G.—Universal Machine Co.
Blo—Blood Bros. Mach. Co.
Cle—Cleveland St. Prod. Corp.
Har—Spicer Mfg. Co.
M-E—Merchant & Evans Co.
M. M.—Mechanics Machine Co.
Pet—Cleveland Univ. Parts Co.
Pic—Pick Mfg. Co.
Spi—Spicer Mfg. Co.
The—Thermoid Rubber Co.
U-M—Universal Machine Co.
U-P—Universal Products Co.

Front and Rear Axles

*—Two speed
½—Semi-Floating.
¾—Three-Quarter Floating.
B—Straight Bevel.
Cla—Clark Equip. Co.
Col—Columbia Axle Co.
Con—Continental Axle Co.
C—Chain.
D—Dead.
Eat—Eaton Axle Co.
F—Floating.
I—Internal Gear.
R—Double Reduction.
S—Spiral Bevel.
Sal—Salisbury Axle Co.
She—Sheldon Axle & Spring Co.
Shu—Shuler Axle Co., Inc.
Tim—Timken Det. Axle Co.
Tor—Eaton Axle & Spring Co.
W—Worm.
Wis—Wisconsin Axle Co.

Brake

A—Rear Wheels only.
B—Driveshaft and Rear Wheels.
D—Jackshaft and Rear Wheels.
E—4-Wheel Brakes.
F—4-Wheel Brakes with emergency on jackshaft.
G—4-Wheel Brakes with emergency on driveshaft.
H—4-Wheel Brakes with emergency on rear wheels.
I—4-Wheel Brakes with emergency on propeller shaft.
J—Driveshaft.

Service Brake Type

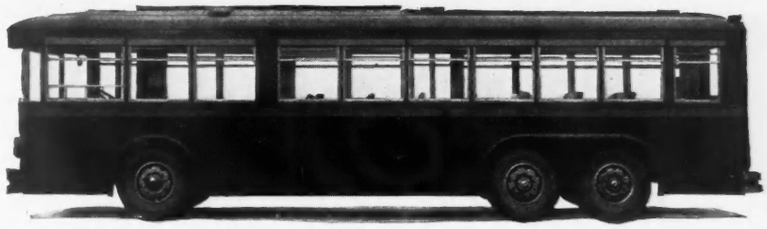
*—Mechanical.
†—Hydraulic.
‡—Vacuum Booster.
°Compressed Air.

Steering Gear

CAS—Columbus G. & P. Co.
D-G—Detroit Gear & Mach. Co.
Dod—Dodge Bros. Co.
Gem—Gemmer Mfg. Co.
Han—Hannum Mfg. Co.
Jac—Saginaw Steering Gear, Div. General Motors Corp.
Lav—Hannum Mfg. Co.
Ros—Ross Gear & Tool Co.

Spoksteel by Motor Wheel

Electric steam coach designed and built by D. McCall White organization. Weight 11 tons. 40 passengers. Spoksteel-equipped.



Bicycle wheels won't do for locomotives. Ordinary wheels cannot stand the strain in *road*-locomotives. They must be made to stand *work*-strain. They must be Spoksteel for these reasons: more strength with lessened weight resulting from one-piece spider forged from high-carbon steel; radial load transmitted by direct contact of wheel and hub; positive mounting; fan action of spokes for cooling.

In every test the facts come out—and facts always favor Spoksteel. Send for complete engineering information.

MOTOR WHEEL CORPORATION, LANSING, MICHIGAN

AN ATTRACTIVE PROPOSITION

FOR A LIMITED NUMBER OF

TRUCK DISTRIBUTORS

WE WANT to open negotiations with previously successful business men who can see the profit possibilities of a product that enjoys upward of 70% repeat sales throughout the world.

When we say "open negotiations" we mean only that. We want to look you over carefully, and we want you to take apart *our* proposition just as thoroughly. If we both are satisfied with the results, we are prepared to go to the absolute limit of our ability for you, and will look for just as much from you.

The basis on which you will establish your business is extremely sound, and the complete set-up will be approved by your banker. We will put you in touch with other Federal men who started the same way and proceeded along the same lines, and you can be the judge of the results.

We prefer men with automotive experience, but this can be waived if a successful management and selling record along other lines stands in its stead.

Your inquiry will not obligate you in any way. We will not try to "sell" you a Federal franchise. We will simply place all the facts in your hands, and invite you to investigate thoroughly.

The co-operation we offer includes every sound thing known to automotive selling, the application of which has been made really practical by nearly 20 years of success. There is everything that can be asked by a self-reliant business man. There is no get-rich-quick-without-work angle to this franchise, but there IS a genuine opportunity for the kind of men who find pleasure in business. The open territories are in a number of different sections. We will welcome letters of inquiry.

(255)

FEDERAL MOTOR TRUCK CO.

Leading Specialists in Commercial Transportation

5786 FEDERAL AVENUE : : DETROIT

FEDERAL TRUCKS